American Aviation

The Independent Voice of American Aeronautics — AUGUST 15, 1944

Merchandising by PAA

Fortnightly Review

THE RADICAL fare and cargo reductions proposed by Pan American World Airways for its Latin American system offers intriguing fields for speculation and a new era in air transportation. Although PAA runs a certain risk by publicizing its plans so far in advance of their fruition (it won't be effective until all planes on order are delivered), it embraces a type of merchandising in mass transportation which we hope will be typical of the postwar years. The plan does not merely provide sufficient seat capacity for existing business—it offers a vast amount of seat capacity at appealing rates as a stimulant to creating new business. This is typical of American industrial merchandising and it is good to see it being applied to air transportation.

This is an unusual step forward by PAA and would seem to indicate that the company is placing its faith in the future of volume business. It would seem to indicate that Pan American does not fear competition as much as it has seemed to fear it in the past. In fact it seems to indicate that PAA expects competition and is issuing a forthright and healthy competitive challenge. Pan American has made much of the threats of foreign competitors with their lower labor costs, in its appearances before Senate and CAB hearings, but the PAA plan to offer system-wide fares averaging 4.25 cents per passenger mile, with some fares as low as 3.5 cents per mile, apparently means that PAA does not actually fear competition either by foreign or U. S. competitors. In a large sense PAA has answered its own arguments by its comprehensive Latin American plans.

(Turn to page 10)

Named Globe V. P.

George J. Newman, 36, former manager of the Fort Worth Division, Consolidated Vultee Aircraft Corp., has been appointed vice president of Globe Aircraft Corp. (See page 32).

Late Bulletins

Memphis-Detroit Award

Chicago and Southern Air Lines has been awarded a new air route between Detroit and Memphis via Toledo, Fort Wayne, Marion, Anderson-Muncie-New Castle, Indianapolis, Evansville, and Paducah. In the same decision, TWA was given permission to serve Terre Haute.

Drinkwater Resigns

Terrell C. Drinkwater announced August 10 that he has resigned as executive vice president and general manager of Continental Airlines effective September 1. He also is relinquishing his post as company director and general counsel.

Trend of the News

Compromise on Fares? It seems clear that the United States will not under any condition agree to the type of an international CAB desired by the British and Canadians to control and regulate all international air traffic after the war. For one thing, Congress wouldn't ratify such a proposal. While the British are still hoping for some type of international regulation or allocation of frequencies of schedules on certain routes, it is likely that they will accept a compromise on a regulation of fares. Some sort of establishment of minimum fares to prevent cut-throat competition will come out of the international conferences. What the British want is an economic protection against one country pushing all competitors out of business. It's not an illogical request. What the British and other countries frequently overlook, however, is that the U. S. and Canada generate the bulk of trans-Atlantic travel. Foreign steamship companies carried most of this prewar business. Our officials can't see why U. S. airlines should not be able to carry our own traffic in our own planes—and as much as they can sell. That will build up more business for everyone.

State Department Active: Never before in State Department history has the aviation division been so thoroughly-staffed, active and on the beam. Stokeley Morgan, the division's director, long conversant with international affairs, is building up a sizeable reputation in the aviation field. For once, aviation is not being side-tracked nor is it covered up by the red tape of other units. The division reports solely to Adolph Berle, Assistant Secretary of State. It's geared for faster action and decisions than ever before. In some respects the State Department is leading both the government and industry parade in international matters; the thinking is far ahead. That's as it should be—but one doesn't always find progressive thinking in government departments.

Jet Planes: While the schedules for production of jet propulsion planes are strictly military secrets, an idea of the size of the program is indicated in an authorized announcement that General Electric Co. will devote 600,000 square feet of floor space to the task of turning out jet propulsion turbines. Even this output, the company said, will not

(Turn to page 6)

25c

A WEDDING WHICH MILLIONS WILL WATCH

Carried in the crimson *bridal chair* is a demure Chinese maiden—on her way to the bridegroom's home for the wedding. A familiar sight to millions of Chinese for centuries, the bridal chair is a symbol of hope for a happy and productive union.

After Victory, many more millions in China may be privileged to watch another sort of wedding—the wedding of modern air transportation with the vast manpower and resources of China. And such a union can produce an era of enduring prosperity.

For modern China can count among her millions . . . skilled pilots, trained aircraft maintenance workers, intelligent, well-educated and energetic citizens, soldiers and statesmen . . . men and women competent and capable of realizing the opportunities which peace . . . and the development and growth of its own air transport and aviation industry . . . can bring to China.

At McDonnell, we are devoting full time to our job of making planes, parts, and plastics for the United Nations' war effort. But we're making plans too—after Victory—to add our contribution to the development of an aviation industry in China . . . a contribution worthy of so great a country.

McDONNELL *Aircraft Corporation*

Manufacturers of PLANES · PARTS · PLASTICS ★ SAINT LOUIS-MEMPHIS ★

CONTROLLING THE POWER OF 2,000 HORSES

TODAY'S aircraft engines are miracles of concentrated power. In the tapered nose of a fighting plane, the might of more than 2,000 horses is held in leash—ready at a touch of the throttle to carry the war to the enemy.

As engine horsepower has gone up—and up—and up, engine manufacturers have demanded gears of greater compactness and greater precision to carry these vastly increased loads.

Producing gears of sufficient accuracy to meet the demand of these super-engines was formerly possible by slow and tedious hand methods. But the problems presented in adapting these hand procedures to the manufacture of gears in quantities sufficient to power the world's greatest air force meant a new approach to gear production.

The thousands of Pratt and Whitney engines in use in every theater of the war testify to the successful solution of these problems. For today, in the plants of Foote Bros. Gear and Machine Corporation, revolutionary methods of gear fabrication, heat treatment and quality control are assuring our air forces of high precision gears—in quantities.

Translated into terms of peacetime production, these gears promise American manufacturers new economies in power transmission—new compactness in machine design.

FOOTE BROS. GEAR AND MACHINE CORPORATION • 5225 SO. WESTERN BLVD., CHICAGO 9, ILL.

FOOTE BROS.

Better Power Transmission Through Better Gears

American Aviation

Vol. 8 No. 6 August 15, 1944

The Independent Voice of American Aeronautics

Published the 1st and 15th of each month by American Aviation Associates, Inc., American Building, 1317 F Street, NW., Washington, 4, D. C. Printed at The Telegraph Press, Cameron and Kelker Sts., Harrisburg, Pa. Entered as second class matter at Washington, D. C. and Harrisburg, Pa.

WAYNE W. PARRISH, Editor and Publisher

W. L. RUSSELL, Editorial Director
ERIC BRAMLEY, Executive Editor

THOMAS E. LINDSEY, Business Manager

Department Editors: E. J. Foley (Equipment); Peggy Guetter (West Coast); Clifford Guest (Special Assignments); William Thompson (Production Editor and Staff Photographer); Gerard B. Dobben (Transport).

Regional Representatives:
Miss Peggy A. Guetter, West Coast Representative, Room 1404, Park Central Bldg., 412 West Sixth St., Los Angeles, 14, Cal. Telephone: Vandike 2680.
Harry W. Brown, Midwestern Advertising Manager, 522 Briar Place, Chicago, 14, Ill. Telephone: Lakeview 6704.
O. R. Elofson, Eastern Advertising Manager, 2207 RKO Bldg., 1270 Sixth Avenue, New York, 20, N. Y. Telephone: Circle 6-9446.
J. Forecast, British Representative, Edwin Greenwood Ltd., Thanet House, Strand, London, W.C.2, England.

Publishing Corporation: American Aviation Associates, Inc., Wayne W. Parrish, President; Col. Albert H. Stackpole, Vice President (in active military service); Eric Bramley, Vice President; Brig. Gen. E. J. Stackpole, Jr., Treasurer (in active military service); Thomas E. Lindsey, Sec'y.

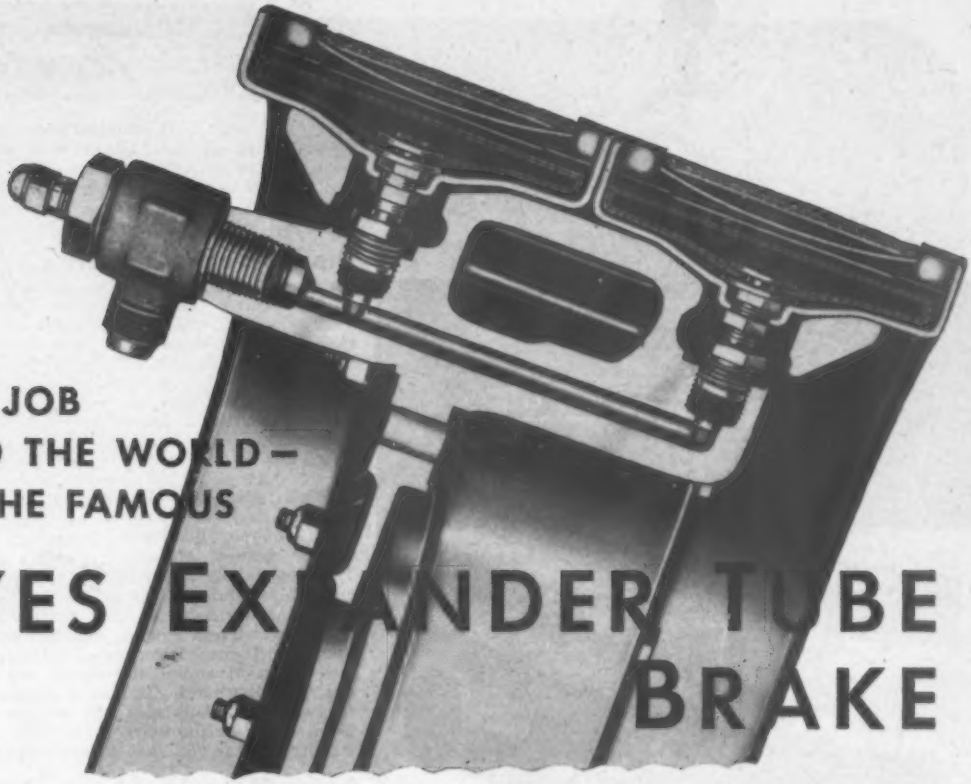
American Aviation: Subscription rates for U. S., Mexico, Central and South American countries—$4.00 for 1 year; $7.00 for 2 years. Canada—$4.50 for 1 year; $8.00 for 2 years. All other countries—$5.50 for 1 year; $10.00 for 2 years.

American Aviation Daily: Published six days each week except holidays; dispatched by air mail. $15 per month; $85 for six months; $170 per year. Group company rates on request. Service Bureau available to all subscribers. Clifford Guest, *Managing Editor*.

American Aviation Directory: Published twice a year, spring and fall. Complete reference data on administrative and operating personnel of airlines, manufacturers, accessories firms and their products, organizations, schools and local operators, Federal and state government agencies concerned with aviation. Single copy, $5; Annual subscriptions, $7.50. Discounts on quantity orders. Next edition scheduled for October. Helen L. Walsh, *Managing Editor*.

Universal Airline Schedules: Published and revised monthly at 139 North Clark Street, Chicago, 2, Ill. (Telephone: State 2154). Complete airline schedules, fares, and travel information, including international air transportation. Subscription rates: $5.00 per year. Airline rates on request. H. D. Whitney, *Managing Editor*.

American Aviation Reports: Current financial and traffic statistics from all domestic airlines' reports to the CAB plus monthly and semi-annual summaries. $175 per year. $100 for 6 months, $20 per month. Special statistical and research work for subscribers at cost.

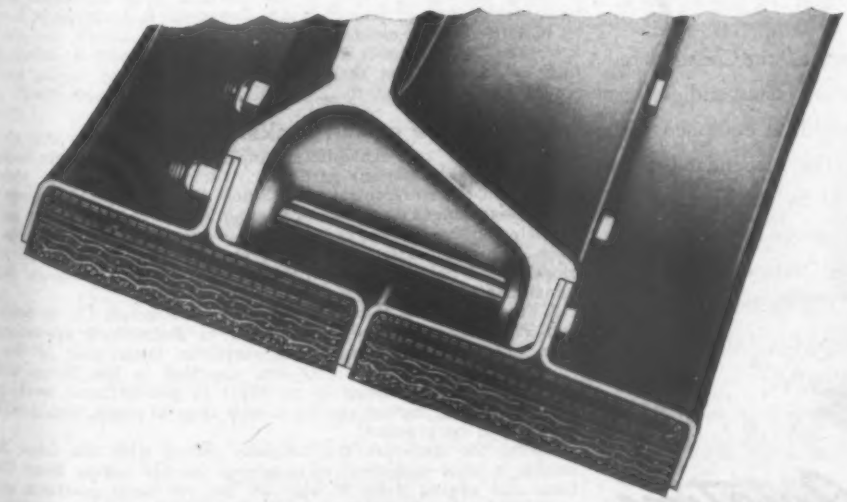


ON THE JOB AROUND THE WORLD— HERE'S THE FAMOUS

HAYES EXPANDER TUBE BRAKE

From the giant 56″ wheels and dual duplex brakes on the B-29 Superfortresses, Liberators and Flying Fortresses—to the smallest 4″, 5″ and 6″ wheels and brakes on Piper and Stinson Airplanes . . . pilots and ground crews, aircraft engineers and designers, all know the war-proved performance of Hayes Expander Tube Brakes under rugged conditions.

Long service life, easy maintenance, freedom from grabbing and fading, rapid heat dissipation, accurate functioning whether in sub-zero or tropic temperatures, and reliable performance under greatly increased loads and landing speeds for the same size wheels *—all are proved in war as they were in peace.*



Western Representative: Airsupply Co., 5959 W. 3rd St., Los Angeles 36, Calif.

HAYES INDUSTRIES, INC. Home Office: JACKSON, MICHIGAN, U. S. A.

Trends

(Continued from page 1)

be sufficient to meet Government requirements and another large corporation also is being called upon to begin production. One aircraft manufacturer is now experimenting with the installation of a jet motor on a conventional plane to provide additional take-off power.

The Beaver's Adviser: Lord Beaverbrook is pretty much in the saddle as far as Britain's postwar aviation policies are concerned, but The Beaver leans heavily on a studious-looking young man by the name of Peter Masefield. In his early thirties, Masefield is one of the brilliant younger men of the coming Britain. Early in the war he was highly critical of American military airplanes, so much so that General H. H. Arnold brought him to the U. S. as the guest of the AAF. Accompanied by a lieutenant-colonel Masefield was flown over the country to visit aircraft plants and fly our planes and see what was on the way. He was amazed at the vast extent of our production, looked kindlier toward our newer models. The trip was a success. But Masefield realized that Britain had a huge postwar job to do to keep up with the U. S. in foreign air commerce. Sometimes impatient, often reticent, and always Empire-minded, Masefield is doing much of the thinking for The Beaver. A journalist by profession, but a student of aircraft, Masefield will go far in Britain after the war, although his blunt criticism of some British aircraft and policies have not made friends in some quarters in the U. K. that are sensitive to criticism these days. His present handicap is youth, lack of travel around the world, and absence of a practical industry background. But as a planner he has a future. After the war he undoubtedly will indulge in his first love—journalism—and make his mark there. He is married to an attractive, intelligent wife and has three unusually bright children.

Sales Financing: American bankers, who didn't bother much with the field of consumer credit before the war are now planning to get into various phases of consumer financing and, among other things, have their eye on the postwar private plane market. Walter B. French, American Bankers Association deputy manager, said that only 200 banks had dabbled with this type of financing previously but that many of the 15,000 ABA members are now studying the aircraft sales field.

"While some bankers may be hesitant about this type of financing," he said, "they should remember what happened 25 years ago when somebody suggested that they interest themselves in automobile financing. They did not accept that opportunity and other agencies entered the field and made handsome profits over the years."

Noting the interest of local banks in this field, the Aero Insurance Underwriters, 111 John Street, New York, has prepared a folder containing "most of the essential data to enable any bank, engaged in consumer goods financing, to understand how its facilities can be extended to aircraft." G. L. Lloyd, manager, asserted: "Local agents can play an important part in bringing together dealers and distributors of aircraft and banks who would like to expand their installment financing activities."

In the Wake of Cutbacks: It is inevitable that aircraft cutbacks and schedule modifications will eliminate some plants from production, particularly among the smaller companies and the sub-contractors. Since the unfortunate Brewster case, Government agencies are committed to a policy of announcing cutbacks and cancellations as far in advance as possible. This immediately poses a serious problem of employe morale, and how to keep workers on the job to complete the remainder of the contract.

A current case is that of the Hammond Aircraft Co. at South San Francisco which will be forced to discontinue operations upon completion of present contracts the latter part of September. While the company has appealed to the Army and Navy and other agencies in an effort to get airframe work, it was found that tooling up for a new type of work would take too long to be practical.

Facing the situation, the company joined with the union in issuing a joint statement to employes frankly telling them the facts and urging them to stay on the job until contracts are completed. Beyond this appeal, the only lever the company has is that severance pay will be forfeited by any employe who quits before the work is finished.

(Top) National Airlines' ("The Buccaneer Route") Lockhead Lodestar aloft over Miami, Fla.

(Bottom) American Airlines' Flagship (Douglas DC-3) serving the Southern Transcontinental Route

America's Top-Quality Tire Has Kept Pace with the Fast-Changing Requirements of Air Transport

A vital link in our war effort . . . America knows that the planes and personnel of our airlines have made an invaluable contribution to Victory, maintaining records for safety and performance that call for the highest admiration.

From the very beginning of air transport, General Tire has been privileged to work with the airlines in the development of aircraft tires and allied products that have kept pace with the ever-increasing demands of faster landing speeds, heavier loads and improved runways.

General consistently has supplied products that assure the important factors of long life, soft landings and rugged service . . . with *maximum safety* controlling every step in every improvement.

General Tire pledges its continued cooperation to the airlines in the tremendous future which lies ahead.

AVIATION DIVISION
THE GENERAL TIRE & RUBBER COMPANY
AKRON, OHIO

"Gulf Cutting Oils and Gulf Engineering Service have helped us top our production quota"—

says this shell plant Superintendent

(Above) Actual photo of a Gulf Service Engineer consulting with the Superintendent of Crown Tool Company on cutting oil requirements for threading shells. (Below) Close-up of nose threading operation.

"With Gulf Lasupar Cutting Oil, chaser life has been increased several hundred percent"—

GULF CUTTING OILS and Gulf Engineering Service have been responsible for a marked improvement in our machining practice, which has aided us in topping our production quota" says this shell plant Superintendent. "Outstanding results with Gulf Cutting Oils include a several hundred percent increase in chaser life."

This is one of many war plants that have improved machining practice by using Gulf Cutting Oils and by adopting the practical suggestions of trained and experienced Gulf Service Engineers.

Gulf performance-proven cutting oils have established records on the toughest steels and most punishing schedules that the armament industry offers. You'll find them helpful in improving production and tool life now and in paring costs below competitive levels in the postwar period.

Let a Gulf Service Engineer show you why Gulf Cutting Oils are ideal for many of your machining jobs. Write, wire, or phone your nearest Gulf office today.

BACK THE ATTACK . . . BUY MORE WAR BONDS!

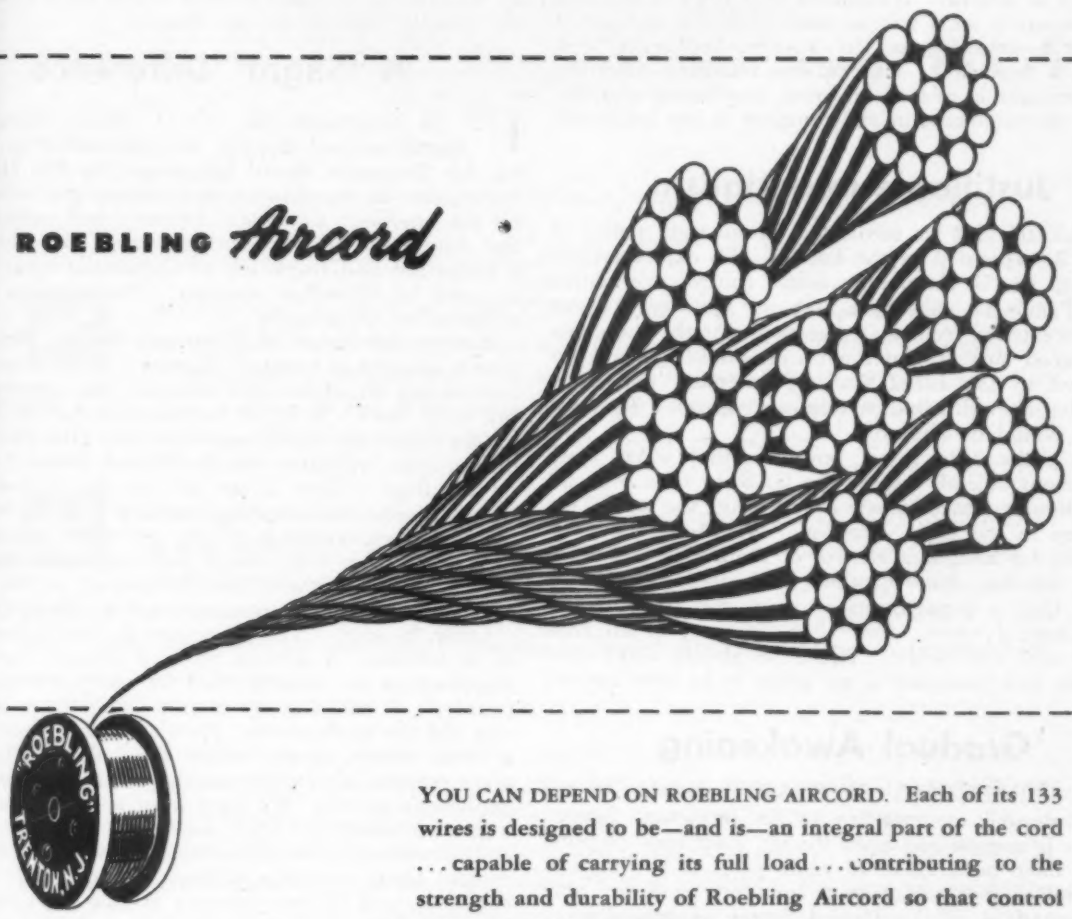
GULF INDUSTRIAL LUBRICATION

GULF OIL CORPORATION · GULF REFINING COMPANY

GULF BUILDING, PITTSBURGH 30, PA.

The special factor responsible for Roebling Control Cable quality *is neither metal, nor open hearths, nor mills alone, but rather a* combination *of them...backed by the "know how" accumulated in 100 years of* wire specialization...

ROEBLING *Aircord*



YOU CAN DEPEND ON ROEBLING AIRCORD. Each of its 133 wires is designed to be—and is—an integral part of the cord ... capable of carrying its full load ... contributing to the strength and durability of Roebling Aircord so that control will be positive, easy, dependable.

Yes, you *can* depend on Roebling for your Control Cord, Strand, Terminals, Complete Swaged Assemblies, Control Casing, Special Wires, Cables and Slings.

Aircord Division

JOHN A. ROEBLING'S SONS COMPANY

TRENTON 2, NEW JERSEY • Branches and Warehouses in Principal Cities

WIRE ROPE AND STRAND • FITTINGS • COLD ROLLED STRIP • AIRCORD, SWAGED TERMINALS AND ASSEMBLIES • ROUND AND SHAPED WIRE WIRE CLOTH AND NETTING • HIGH AND LOW CARBON ACID AND BASIC OPEN HEARTH STEELS SUSPENSION BRIDGES AND CABLES • ELECTRICAL WIRES AND CABLES • AERIAL WIRE ROPE SYSTEMS

JR ROEBLING

ROEBLING

means Control in the air

Editorial

(Continued from page 1)

Aside from the single limitation that the starting proposed reductions in fares and flying times are announced considerably in advance of the time that they can become effective, the PAA plan is a revolutionary development both for the company itself and for air transport in general. If it means that PAA is stepping out to compete on a volume basis with the airlines of the world—counting on its superior efficiency and service to capture its share of the business—then the PAA proposal is one of the most heartening and important developments in air transport in the industry's history.

Justifiable Imperialism

EARLY IN 1943 we advocated an out-right policy of U. S. expansion in the Pacific. We expressed the view that the U. S. should assume control over much of the Pacific to make sure that our security is never again threatened from that direction. At the time, one of our good British contemporaries, *Flight*, got overly-exercised in the belief that we intended that even Australia should come within our grasp. That, of course, would be absurd.

It is pleasant to learn, however, that some State Department officials expect the U. S. to take over all of the Jap-mandated Pacific islands after the war. This is a step in the right direction. We should have no apologies for assuming control of thousands of islands which the Japs have fortified and used as military bases. Call it imperialism or what you like, it only makes logical sense. The U. S. is most of all concerned with the Pacific. The U. S. should make sure that this vast backyard is not going to be used against us.

Gradual Awakening

THE DEPARTMENT OF STATE'S decision to appoint civil air attaches to six important foreign capitals is a good one even though such appointments should have been made 10 years ago. It is a sign of the gradual awakening to a long-felt need for able representatives of the United States to specialize in civil aviation abroad. The placing of Livingston Satterthwaite in London last year, and his appointment as the first civil air attache, has worked out excellently. He has done a splendid job.

It is only another demonstration of the need for more American flag representation abroad. The government has never been properly informed on aviation developments in other countries and it is too much to expect diplomats or naval and military air attaches to do the job for civil aviation.

Our civil air attaches should be provided with airplanes. They should have the same freedom to plug for American aviation that British representatives have in rightfully advancing British aviation. The recent tours of the British transport, the Avro York, which impressed the officials of more than one foreign government, is an example of what we should be doing ourselves. Certainly a Douglas C-54, a Curtiss Commando and several other leading types should be making routine demonstration tours right now. And there should be no lack of initiative in Washington to provide our air attaches with one or more light airplanes for travel in their areas. The fact that we haven't done all these things long ago merely shows again how much we have to learn in foreign matters.

A "Slight" Difference

UP IN CANADA Mr. C. D. Howe, Minister of Munitions and Supply, has succeeded in getting his Air Transport Board bill passed by the House of Commons. In his answers to questions put before him by the energetic *Canadian Aviation* and published in the July issue of our contemporary, Mr. Howe did a forthright and frank job of explaining what he has in mind for Canadian aviation. The answers seemed to us to be quite good.

But in the House of Commons debate Mr. Howe, who is accused of being a "dictator," made some rather remarkable mis-statements when he was comparing his bill with the U. S. Civil Aeronautics Act of 1938.

"My honorable friend says that this (the Howe bill) differs from legislation in the United States," he said on the floor. 'That is not so. In the United States the Authority considers applications from airlines and makes recommendations to the executive power. The executive power may accept such recommendations or refuse to accept them, but the power in the United States is in the executive, and not in the board."

Later, he said: "The procedure in the United States is as follows. A certain route is opened for award. Applications are usually filed by every airline in the country. It takes many months, sometimes years, to sort out the applications. Each applicant must present a brief, which comes before the board. That brief gives reasons why the route should be awarded to the applicant's airline. We have been applicants at Washington ourselves; we know something of the procedures and something of the time element involved. The most careful study is made of the relative merits of each applicant, and in due course a finding with reasons is brought down as a recommendation to the executive that the route be awarded to one of the applicants. I think the executive has always acted on the advice of the aeronautics authority . . ."

It is understandable how an aviation official in a country even as close to us as Canada can be misinformed on the provisions of the Civil Aeronautics Act. But Mr. Howe should not appear before the House of Commons and hold himself up as an expert. The truth is that the Civil Aeronautics Board has the final decision on all domestic route applications. Only decisions on applications for foreign routes must be approved and signed by the President, and this is largely to give the Department of State an opportunity to assert itself in such decisions. There are other assertions by Mr. Howe that are not according to the law or the facts. Mr. Howe should read the Civil Aeronautics Act before he seeks to make comparisons.

WAYNE W. PARRISH

plane talk

AVIATION EQUIPMENT NEWS AND FACTS

For *plane, plant* and *port*—Westinghouse builds a complete line of electrical equipment . . .

Send for our new book on X-RAY INSPECTION—B-3159. It's packed with practical, understandable, question-answering information on how and where to use x-ray—how to set up an x-ray department—how to select the right equipment—range of equipment available . . . or, if you want fast action on your problem, call your nearest Westinghouse office and ask for an X-ray Specialist. He'll respond promptly and competently.

One reason for the dependable accuracy of Westinghouse AIRCRAFT INSTRUMENTS is their hard, tough pivots. Made by a special process, these pivots resist blunting . . . protect careful calibrations. Every manufacturing step is carefully controlled. Honing pressure is precisely regulated. Pivots are tumbled to relieve stress and set grain structure. A 500-to-1 contour enlargement of each point is carefully inspected. Photomicroscopic studies and hardness tests check uniformity.

⅓ to ⅔ kv-a of current-carrying capacity is released by every CAPACITOR Kv-a installed. That's why aircraft manufacturers should investigate how CAPACITORS will give them more production from present power supplies . . . eliminate dangers incident to overloaded systems . . . improve lighting and motor performance . . The PRECIPITRON rates special consideration by precision parts manufacturers. Installed in the plant air circulating system, it removes 90% of all harmful dust and dirt particles—down as fine as 1/250,000 of an inch in diameter. Contrast this with the best mechanical filters that remove only 25% of air-borne dust and dirt.

BUS DUCT is the ideal overhead distribution system for aircraft plants. It's easy to install . . . permits rearrangement to handle shifting loads . . . can be easily converted to peacetime operations. And it saves critical materials. A recent installation required 58,000 less pounds of copper, and 114,000 less pounds of steel than the most economical alternate system. Get the BUS DUCT story today—write for B-3286.

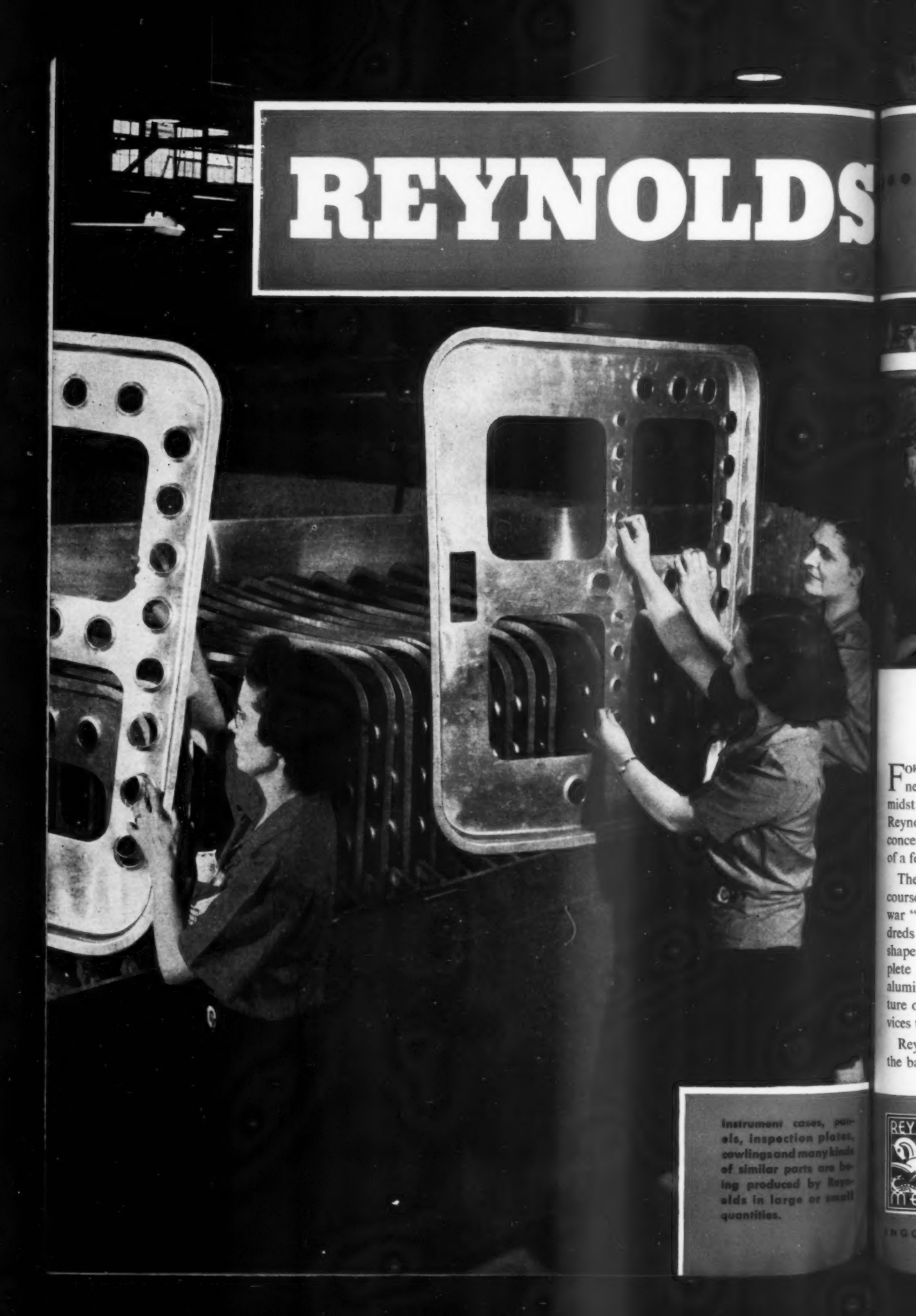
Literature mentioned in "Plane Talk" . . . additional information on any item can be secured from any Westinghouse office, or by writing Westinghouse Electric & Manufacturing Company, Dept. 7-N, East Pittsburgh, Pa.

J-94621

ELECTRICAL EQUIPMENT FOR PLANE · PLANT · PORT

Westinghouse

PLANTS IN 25 CITIES . . . OFFICES EVERYWHERE



Instrument cases, panels, inspection plates, cowlings and many kinds of similar parts are being produced by Reynolds in large or small quantities.

...can supply vitally needed parts NOW

No part is too small or too large for the complete Reynolds facilities. All parts are subjected to rigid inspection as a normal routine of manufacture and stamped with the customer's assembly code numbers. Carefully compiled tally sheets systematically record the shipment of all parts. There is no confusion or delay in assembling Reynolds parts.

FORWARD-LOOKING MANUFACTURERS recognize their acute need of thoroughly dependable sources of supply in the midst of today's uncertainties and changing conditions. Reynolds is just such a supplier, where aluminum parts are concerned . . . whether the order calls for the speedy delivery of a few hundred or a million.

These past few years have given Reynolds a post-graduate course in fast, economical parts manufacture. The lash of war "must" orders produced aluminum parts by the hundreds of thousands . . . parts of every conceivable size and shape—from small angle brackets and sub-panels to complete wing and cabin segments. Reynolds pre-fabricated aluminum parts lowered the cost and speeded the manufacture of planes, tanks, ships and the thousand-and-one devices that go into these weapons.

Reynolds facilities are complete in every respect . . . from the bauxite mines to finished aluminum parts. Batteries of modern high-speed machines, manned by skilled operators, are now available to manufacturers with suitable allocations.

Parts can be fabricated to the most strict specification, or when desirable, Reynolds engineers are ready to work with manufacturers to determine the best application of the new Reynolds-developed aluminum alloys to the specific job at hand. No part is too large or too small for the Reynolds production facilities.

Why not investigate what Reynolds can do for you *now?* Reynolds Metals Co., Aluminum and Parts Div., Louisville, Kentucky.

* * *

SALES OFFICES IN THE FOLLOWING CITIES: Akron, Ohio. Atlanta, Ga. Baltimore, Md. Beverly Hills, Calif. Boston, Mass. Buffalo, N. Y. Chicago, Ill. Cincinnati, Ohio. Cleveland, Ohio. Dallas, Texas. Dayton, Ohio. Detroit, Michigan. Kansas City, Mo. Milwaukee, Wisc. Minneapolis, Minn. New Orleans, La. New York, N. Y. Philadelphia, Pa. Pittsburgh, Pa. St. Louis, Mo. San Francisco, Calif. Toledo, Ohio. Washington, D. C. Wichita, Kansas.

REYNOLDS METAL

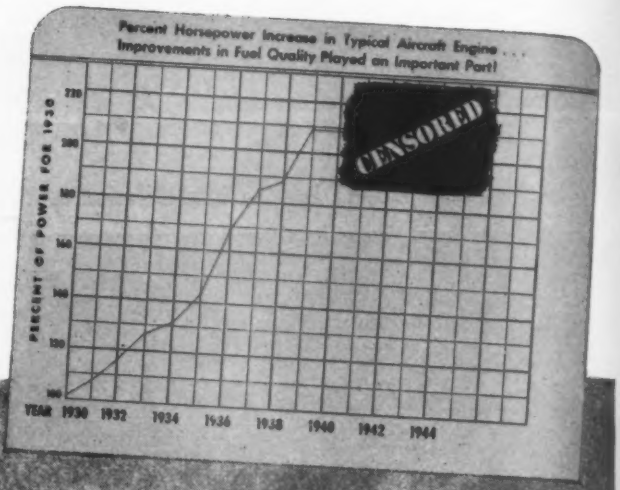
REYNOLDS ALUMINUM

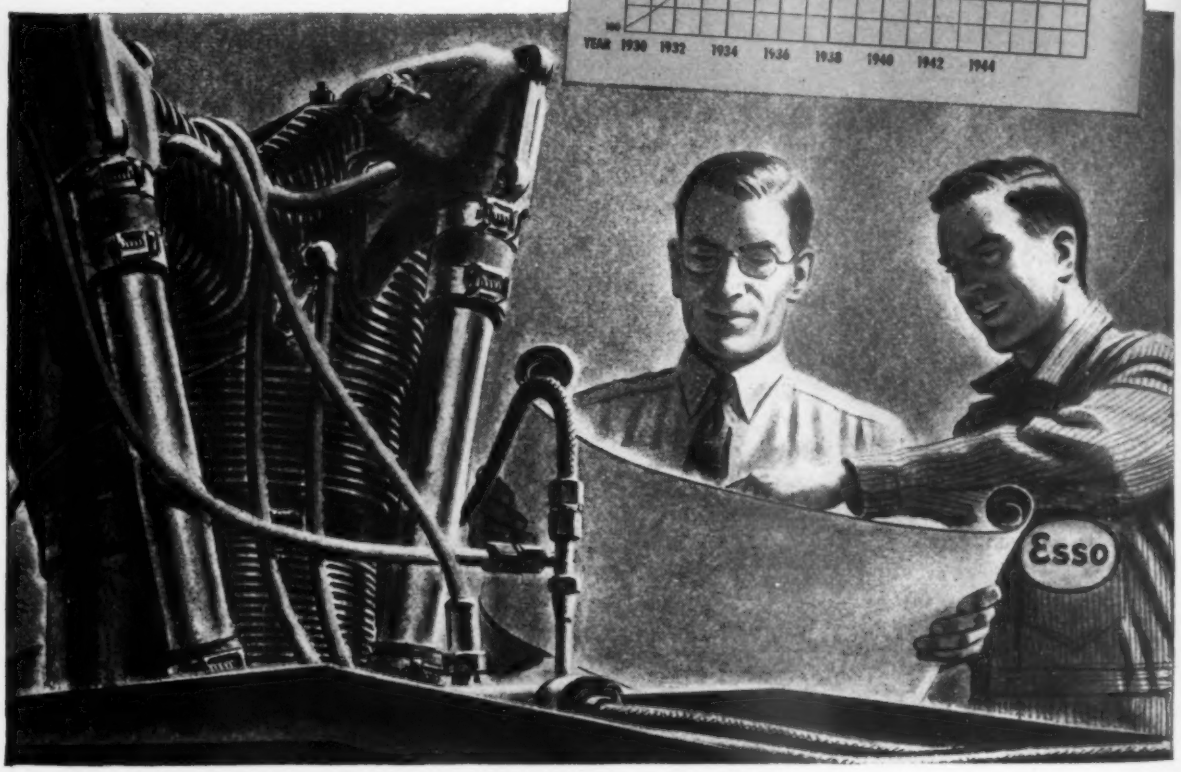
The Great New Source of

INGOT · SHEET · EXTRUSIONS · WIRE · ROD · FORGINGS · TUBING · FOIL · POWDER

Double Rated-Horsepower?...

Engine designers will understand and share our excitement over Test Fuel 3345. We can't tell you much about it, except that it is by far the most effective aviation fuel we've ever tested. We can't even hint what its performance number might be. But in the laboratory, it has pulled MORE THAN DOUBLE THE RATED HORSEPOWER of a single cylinder from a standard full-scale engine.





YOUR NEXT AVIATION FUEL *may be this Test Fuel 3345, or perhaps it is just another step towards that fuel. Further tests will tell. Either way it's one for aviation history. Another in the record which shows that since Kitty Hawk, no other group in the world has made greater contributions to the development of aviation fuels than our own scientists.*

Unique Martin Sponson Fuel Tank Boosts Range of Flying Boats by 60%

WITHOUT AFFECTING TAKE-OFF CHARACTERISTICS

Here, two sections of a Martin sponson fuel tank are attached to the hull of a PBM. Third section will be attached when plane is in water and wheel of beaching gear does not interfere. Similar 3-section sponson fuel tank fits other side of hull.

AN entirely new type of auxiliary fuel tank, which has no appreciable effect on performance or take-off characteristics, increases the range of flying boats by as much as 60%. That's the latest development to emerge from Martin laboratories.

Provide Additional Planing Area

In the past, numerous types of auxiliary tanks for flying boats have been devised, but their added weight made it difficult for the planes to get off the water. Since this difficulty was due to increased gross weight without a corresponding increase in buoyancy and planing area, Martin engineers designed their new fuel tanks as sponsons fitting snugly against either side of a flying boat's hull.

Only 2% Reduction in Top Speed

Thus, the added planing area provided by the bottoms of the tanks, compensates for their increased load to such an extent that take-off characteristics remain about the same as they would without the fuel-filled sponsons. Translated into terms of operating efficiency, this means added range or payload with only a 2% reduction in top speed. Even this reduction in speed is not necessary throughout the entire flight, since the sponson tanks may be jettisoned when empty.

It's Another Martin First!

Once again Martin engineers have increased the performance of America's military aircraft and blazed the trail to longer range or greater payload in tomorrow's commercial flights. *It's another Martin first!*

THE GLENN L. MARTIN COMPANY
BALTIMORE 3, MARYLAND
The Glenn L. Martin-Nebraska Company—Omaha

Martin AIRCRAFT

Builders of Dependable Aircraft Since 1909

Piece-Meal Tastes Sour

New York City.

To the Editor:

The July 1 issue of *American Aviation* contained an editorial entitled "How About a Home Patern?" in which you suggested that the CAB might propose a sound plan for the domestic airlines system, similar to the tentative plan for international air routes recently outlined by the Board.

I was very pleased to see your editorial on this subject, because it has been apparent for some time that such a pattern is greatly needed. In fact, a plan of this type was never more needed than today, when domestic new route cases are being heard and new routes established despite the fact that not a single route awarded by the Board in the last five years has been tested by the actual results of operations under what might be called "normal" conditions.

The piece-by-piece method of developing a national airline pattern has, I feel sure, caused some carriers to apply for routes they do not (or at least should not) want. The piece-by-piece method necessarily results in decisions strictly "limited to the facts in the case" which afford no guide to future action and lay down no clear-cut principles.

Thus, you find that Mr. Damon, in a recent letter to the Board, indicates a belief that the Board has adopted the principle of "competition for competition's sake." I hope this doctrine has not been adopted by the Board; but regardless of what the Board thought it meant, the fact remains that one of the leading officials in the industry believes that "competition for competition's sake" is the law, and others do, too. In fact, in my opinion, the majority of domestic route applications being heard today have been filed because of the belief that the law is as expressed by Mr. Damon.

A "home pattern" would afford an opportunity either to confirm or disavow this belief.

A "home pattern" would permit those carriers who have an overall plan for their own expansion to present such plans for consideration of the Board, in contrast to the present situation in which carriers are limited in their presentation to a relatively small segment of the entire picture.

A "home pattern" would make it necessary for everyone (i. e., those who apply for routes as well as those who grant them) to sit down and look over the expansion problem from a long-run point of view under normal conditions. I sincerely hope that your editorial efforts will bear fruit.

GEORGE A. SPATER,
Counsel for TWA.

Letters

Credit the Pioneers

To the Editor:

I have read with a great deal of interest, in your issue of August 1st, the story on page 20 entitled "Pressure Pattern Flying Conquers North Atlantic." I do think that some credit should be given early airship navigators on this subject.

Your article goes on to mention "why someone didn't think of this method sooner." Actually, the two commercial airships GRAF ZEPPELIN and HINDENBURG employed this very technique from the beginning of their transoceanic operations even though they did not call it "pressure pattern" flying. As a matter of fact, studies were made by Goodyear interests many years ago, and the results of these studies were published in Hugh Allen's "Story of the Airship," 8th edition, put out in 1932. In the back of that publication you will find diagrams showing "summer flight area" and "winter flight area", as well as a brief discussion to "illustrate the fact that the airship captain flies by the weather map rather than the compass."

Your article mentions as "the two most important instruments" the radio altimeter and the barometric altimeter. It is true that the airships did not have the radio altimeter, but they did have a substitute device called the "Behm Echolot". In its early form it was merely the timing of the echo of a blank fired from a rifle. A later form consisted of a compressed air signal bounced against the surface of the sea and its echo timed. But regardless of its form, it constituted an "absolute altimeter" just as does the radio altimeter.

In my opinion, however, it is necessary to have more than just "pressure trends." While such information is extremely important, they present their maximum usefulness only in conjunction with the weather map.

As one who has been consistently advocating "meteoroligcal navigation" for oceanic flying, I am certainly gratified that HTA (heavier-than-air) is also recognizing the situation, for with the terrific HTA momentum which can be put behind the project, it should receive the benefit of all the scientific and other help available. I do think, however, that some mention should be made of the fact that despite its value, neither the instruments nor the technique are actually new.

NAME WITHHELD BY REQUEST.

Traffic Headache

Flushing, N. Y.

To the Editor:

As an airline pilot I'm acutely aware of the danger inherent in indiscriminate flying in the vicinity of large airline terminals. Thus, one aspect of postwar private flying has been giving me a headache: air traffic control.

I just don't see how the greatly increased private flying is going to be safely controlled in areas of poor visibility, especially New York, and still permit enough freedom of action to private flyers to justify the expense of purchasing and maintaining airplanes.

A PAN AMERICAN AIRWAYS PILOT.

Editor's Note: Traffic control at busy airline terminals is going to be one of aviation's biggest problems after the war. What is the attitude of the private flyer?

Books

MAN'S FIGHT TO FLY. By John P. V. Heinmuller. Illustrated. 360 pp. Funk & Wagnalls Company, New York. $6.00.

This book will develop no little nostalgia for those who lived through aviation's earlier days. It is the story of famous world-record flights, containing a chronology of aviation, and over 200 documental photos of world air records. It belongs in every aeronautical library.

Heinmuller is chief timer for the National Aeronautic Association, and the F.A.I., the official recording agencies for the U. S. and the world respectively for all official air records. He is president of Longines-Wittnauer Watch Co. which has made most of the timing devices used in record efforts. More than any other American, probably, he was the man to write a book on this subject for he participated personally in most of the record events in those days when flying across the Atlantic, in this country, or around the world, brought huge newspaper headlines and captured the imaginations of all peoples.

Sixteen record flights are specifically described, while many others are noted in the chronology. Beginning with Igor Sikorsky, such names as Francesco De Pinedo, Charles Lindbergh, Clarence Chamberlain, Amelia Earhart, C. B. D. Collyer, Wiley Post, Harold Gatty, Russell Boardman, John Polando, Benny Griffin, Paul Codos, Dick Merrill and Howard Hughes, to name but a few, appear throughout an intriguing story. Some have passed on. Some are living but are infrequently heard of these days. Others have moved on to new activities and are still in the limelight.

The chronology is useful for reference purposes. It starts, as do all such chronologies of the air, with Leonardo Da Vinci, and concludes with Richard Archbold, whose round-the-world flight in 1938-39 was an epic.

In these days when flying oceans and continents with 4-engined bombers and transports by 20-year-old youngsters is routine, one looks for more information on the airplanes and engines than Heinmuller provides. We are sorry he did no more than mention the types of airplanes used in those early flights.

Essentially Heinmuller has provided us with an historical record of record flights. Aside from the useful chronology, it is in no sense a history of aviation. This is not an effort to deprecate the book, for it is a creditable addition to aviation literature, but the title gives the impression of a broader coverage of aviation than actually is given. Eddie Rickenbacker has written a foreword. All those in aviation should read the book, those in aviation between 1920-35 for its intimate reminiscences, and those who entered it later for a refreshing review of a great period in flying.

W.W.P.

•

TWENTIETH CENTURY ENGINEERING. By C. H. S. Tupholme. Philosophical Library, New York. 200 pp.

The author of this book has a real gift for popularizing his subject, which is *engineering* in the broadest sense. Aircraft, physics, mechanical power, engineering workshop practices, air conditioning and refrigeration, chemical and metallurgical engineering, electrical engineering, and traction and marine engineering are covered in an entertaining manner—for the layman.

Obituaries

P. G. B. Morriss

P. G. B. ("Bud") Morriss, veteran airman and Los Angeles hotel executive, died in Hollywood Aug. 4 of a heart attack. Morriss was founder of the Early Birds and is credited with sending the first radio message from a plane to the ground. He was past commander of the Aviation Post 350 of the American Legion. He left hotel work to rejoin the Army in this war, retiring last May as a lieutenant colonel after serving as executive officer at the San Bernardino Army Air Depot.

Nikolai N. Polikarpov

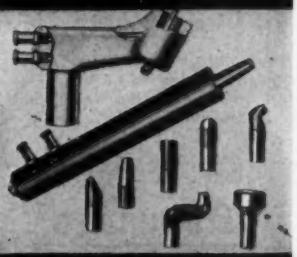
Nikolai N. Polikarpov, 52, designer of small Russian fighter planes, died July 30 in Moscow after a long illness. He was a deputy to the Supreme Soviet and held the Hero of Socialist Labor Medal. He designed the Red Army fighters U-2, I-15, I-16, and the Chiaka. His planes played important roles in the early stages of Russia's fight against Germany. The Russian government announces that since the famous designer's death the name of the U-2 plane will be changed to the Polikarpov-2.

For Tough Jobs...

P. R. MALLORY & CO. Inc.
MALLORY

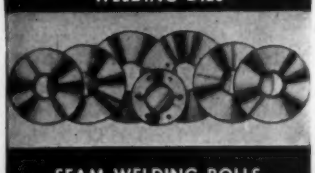
"Heavy-Duty" Welding Tip Holder

Speedier Production
Less Down Time
Better Welding
Lower Cost



SPOT WELDING TIPS AND HOLDERS

FLASH, BUTT, PROJECTION WELDING DIES



SEAM WELDING ROLLS

Today's increased production calls for resistance welding tip holders that are able to stand up under gruelling service. Mallory answers the need with a product that lives up to its name—the Mallory "Heavy-Duty" Holder.

Carrying an increased flow of water or other coolant, this streamlined, compact tip holder keeps tip temperatures down and increases welding quality and efficiency. Its single piece housing, built to protect vital interior parts, also eliminates coolant leakage troubles.

In addition, the holder features an ingenious knockout device that allows the tip to be ejected quickly by a slight hammer blow at the other end. It has a packing nut, readily accessible at the rear, for quick replacement of packing or adjustments.

The Mallory "Heavy-Duty" Resistance Welding Tip Holder is one of several especially built by Mallory for the tougher jobs of wartime. It has what it takes to stand the gaff.

To get the latest technical information on resistance welding electrodes (for ferrous or non-ferrous metals), write today for your copy of the Mallory Resistance Welding Data Book.

P. R. MALLORY & CO., Inc., INDIANAPOLIS 6, INDIANA

Buy War Bonds

P. R. MALLORY & CO. Inc.
MALLORY

Standardized Resistance Welding Electrodes

You'll declare a new Independence in the *Age of Flight*

In the Age of Flight, you are at last going to say good-bye to that "tied down" feeling. You're going to declare your own personal independence of *distance* and *time*.

When the pressure of business or the routine of every-day life begins to weigh heavily upon you . . . when you feel the need for a complete change of scenery . . . you'll go! For the airplane will be at your service as never before.

Huge, luxurious United Mainliners will depart frequently for flights to numerous points across the nation over the strategic Main Line Airway. A single night of travel will take you from the East to one of the great National Parks, to Southern California or the Great Northwest . . . will enable you to journey from winter into summer . . . from summer into lands of perennial snows . . . to spend restful days in an entirely different climate.

You will be able to give broader expression to your personal aims, thanks to the swiftness of the airplane. People you want to see, places you want to visit will be within easy reach. No place in this country will be too far. No trip will take too long to prevent you from going.

Looking forward to this great new day of aviation, United is already anticipating your travel needs, even though all our energies are now dedicated to Victory. Giant 220-mile-an-hour planes are on order, to be delivered when wartime conditions permit. New routes have been applied for. New and far more frequent schedules are being studied.

The "charter" is being drawn up for your new Independence — in the coming Age of Flight.

★ *Buy War Bonds and Stamps for Victory*

UNITED AIR LINES

THE MAIN LINE AIRWAY

—PLANES ARE FLYING BY WILCOX COMMUNICATIONS

The major airlines of the nation — and military aircraft of the United Nations — must have dependable radio communications. Today, Wilcox Aircraft Radio, Communications Receivers, Transmitters and other advanced radio equipment are serving on the home front and on the war fronts over the globe. For reliability... look to Wilcox now and in the years ahead.

WILCOX ELECTRIC COMPANY
Fourteenth & Chestnut, Kansas City, Mo

Manufacturers of Radio Equipment

Vol. 8 No. 6
Aug. 15, 1944

American Aviation

Net Paid
10,508
This Issue

Need Seen for 3 U. S. North Atlantic Lines

Combination American-British Firm To Girdle Globe Believed Possible

By ERIC BRAMLEY

THREE U. S. AIR ROUTES across the North Atlantic Ocean, each serving a geographically integrated region, represent the approximate extent to which competition between U. S.-controlled routes is economically feasible.

Six competitive U. S. routes across the North Atlantic would furnish twice the service that appears economically justifiable.

A combination U. S.-United Kingdom airline, which would girdle the globe, might be the best means of giving the most favorable service to the traveling public of the two countries with minimum government financial support.

These are three conclusions reached in a comprehensive study of the North Atlantic made by the Civil Aeronautics Board's research and analysis division, under direction of F. H. Crozier, chief of the division.

The study, which is impressive in its detail, was made several months ago but was first released this month. It does not represent the official view of the CAB. which has neither approved or disapproved it.

(Crozier has emphasized to *American Aviation* that the study is based on economic considerations, and that no attempt has been made to go into the various complicated political problems which will surround the international air picture.)

Based on 1938 Travel

The study was based on first and cabin class passengers and first class mail moving over the North Atlantic between the U. S. and the European-Mediterranean area in 1938.

Using these figures, Crozier first set up "Service Pattern I." comprising six overocean routes across the North Atlantic, contemplating "participation in direct competition by United States flag carriers at London, Paris, Rome and Berlin, rather than the limiting of geographically integrated transocean regions to single United States carriers."

These six routes were (1) New York-Botwood - Iceland - Oslo - Stockholm - Leningrad, with a branch to Riga and also a branch from Iceland to Copenhagen and Berlin; (2) New York-Botwood-Iceland-Edinburg-London; (3) New York-Botwood - Azores - Foynes - Amsterdam - Berlin - Warsaw; (4) New York - Botwood - Azores - Foynes - London - Brussels - Prague - Vienna - Budapest - Bucharest - Istanbul - Damascus - Lydda; (5) New York-Botwood-Azores-Foynes-Paris-Geneva-Rome; (6) New York-Botwood-Azores-Foynes-London, with a line from the Azores to Lisbon, Madrid, Barcelona, Rome, Athens and Alexandria.

The study found, however, that Service Pattern I "represents about twice the service on overocean segments and at certain European cities that would appear economically justifiable."

Service Pattern II was then developed. It comprises three routes: (1) New York-Botwood - Iceland - Oslo - Stockholm - Helsinki - Leningrad with a branch to Riga, with an Iceland-Copenhagen-Berlin-Prague line, and with another sector running from New York-Botwood-Azores-Foynes-Amsterdam-Berlin-Warsaw; (2) New York - Botwood - Azores - Foynes - London - Brussels - Vienna - Budapest - Bucharest - Istanbul - Damascus - Lydda, plus a Vienna - Belgrade - Sofia - Athens-Alexandria line; also, on the western end would be a line from Detroit through Toronto and Montreal, tying in with the other route at Moncton. (3) New York-Botwood - Azores - Foynes - Paris - Munich, plus Paris-Geneva-Marseilles, and also Azores-Lisbon-Madrid-Barcelona-Rome.

Makes Vital Study—F. H. Crozier, chief of CAB's research and analysis division, prepared the comprehensive report just released showing that, based on 1938 surface travel, no more than three U. S. airlines should be operated across the North Atlantic Ocean.

"Service Pattern II, comprising three overocean routes, represents our (Crozier's) view of the approximate extent to which competition between United States controlled routes is economically feasible," the study said. "This pattern assigns one geographically integrated region to each route.

"An examination of the prewar European air route network . . . indicates that competition between the three United States controlled routes contemplated by Service Pattern II need not depend on direct service by more than one United States controlled route into each principal European traffic center. Paralleling and connecting European routes, many of which will doubtless be identified with carriers participating in overocean service, would appear to afford ample competition among the United States controlled routes at all principal European traffic centers . . .

Pattern II Fully Developed

"Service Pattern II was fully developed because, everything considered, it seemed to best meet the various requirements of adequacy and feasibility. In assigning traffic it was assumed that no European cabotage or other purely European traffic would be transported by United States services and that reciprocal foreign mail equaling the mail dispatched by the United States would be available for westbound trips."

If the equivalent of all 1938 first and cabin class passengers and first class mail

'Wings of Yesterday' New Feature

'Wings of Yesterday' is being started in this issue of *American Aviation*, on Page 93, as a regular magazine feature.

From the news in aviation of 25 years ago and 15 years ago will be gleaned interesting highlights, which, besides tracing the march of progress in the industry, will include many names of persons, companies and planes known to those in the industry today, as well as pioneers who still are setting the pace in modern aviation.

For instance, did you know that 25 years ago an Aeromarine flying boat delivered mail to a steamer at sea, or that 15 years ago N. B. Mamer and Art Walker flew nonstop from Spokane to New York and return in 115 hours, refueling at 11 points. These, and other milestones of the past are reviewed.

Watch for this feature in each issue of *American Aviation*.

moving between the U. S. and European-Mediterranean points were transported over Service Pattern II, the study showed that results would be as follows:

Overseas Service Pattern and Domestic Carrier	Revenue Passenger Miles	Mail Pound Miles	Airplane Miles	Route Miles
	(000's)	(000,000's)		
Route 1	126,724	6,329	11,742	11,690
Route 2	286,340	11,512	17,385	7,966
Route 3	156,668	6,018	10,924	10,114
	569,732	23,859	40,051	29,770
United Air Lines (1941)	236,414	6,461	24,557	5,132
American Airlines (1941)	354,151	5,010	29,786	7,049

"It should be borne in mind that the traffic and mileage assigned to Service Pattern II will be shared in some proportions by United States and participating foreign carriers," the study pointed out. "If it be assumed that one-half of the traffic shown for each route in the above table will be transported by foreign carriers then only sufficient traffic would be left to provide for three United States controlled routes of relatively modest size, each serving one of the three regionally integrated routes comprising Service Pattern II.

1941 Used for Comparison

"Even should traffic prove to be double that here assigned to Service Pattern II, and still assuming that United States carriers will transport one-half of the total, the volume of passenger traffic thus available would be somewhat less than was transported by United and American in 1941."

The total traffic and mileage represented by Service Pattern II, under conditions of reasonable operating efficiency, would require a fleet of 60 four-motor planes of 8,800 lbs. payload capacity for overocean service and 23 twin-engined aircraft of 5,000 lbs. payload capacity for intra-European service, the study estimated. It assumed that these would be utilized at daily averages of 8 hrs. 8 min. and 5 hrs. 56 min. respectively, as compared with utilization by United and American in 1941 of 6:45 and 6:09 hours respectively.

"Under the above assumptions as to traffic and mileage and upon the further assumptions of .5 mill per pound mile mail revenue and 6c per mile passenger revenue (prewar rates of revenue were much higher than these figures) the following revenues would be obtained," the study added, "as compared with corresponding revenues of United and American":

Overseas Service Pattern and Domestic Carrier	Total Dollar Revenues			Cents Per Mile Revenue		
	Passenger	Mail	Total	Passenger	Mail	Total
	(000's)	(000's)	(000's)	¢	¢	¢
Route 1	7,633	3,170	10,803	65	27	92
Route 2	17,211	5,737	22,948	99	33	132
Route 3	9,394	3,059	12,453	86	28	114
Total (or average)	34,238	11,966	46,204	85	30	115
United Air Lines	11,718	3,865	15,583	48	16	64
American Airlines	17,957	4,052	22,009	60	14	74

"Again it is emphasized that all of the foregoing data are based on the total traffic to be shared by three United States controlled routes with an unknown number of foreign, or combinations of foreign operators. Per mile traffic and revenues will depend largely upon volume of service as will the number of aircraft employed.

"It seems reasonable to expect that within a few years after the end of the war the total air traffic over North Atlantic routes will greatly exceed that available before the war. It also seems certain that the service to provide for this traffic will increase many fold. To the extent this increase in service is intelligently shared and regulated to provide economically reasonable competition, the effect upon operating costs should prove favorable rather than adverse.

"However, over-service achieved by the subsidy of more operating companies than are reasonably justified by commercial traffic could be expected to have an adverse effect upon operating costs per mile and more particularly upon such costs per unit of traffic transported."

The airlines' operating costs on the North Atlantic will depend upon "complex considerations," the study points out. Under ideal conditions of international cooperation and integrated and efficient management, it seems reasonable to assume that operations contemplated in Service Pattern II might be conducted at average costs of approximately $1.00 per plane mile for intra-European service and within the wide range of from $2.20 to $3.50 per plane mile for overocean service, it added, emphasizing again that these are "extremely offhand estimates."

Minimum of 1 Daily Trip

Mileage to be flown over Service Pattern II was established by assigning a minimum frequency of one daily round trip to serve each enroute overseas city, such trips to increase seasonably to accommodate maximum critical direction load factors of approximately 75%.

The study also warned that traffic volume and dispersion characteristics are so unfavorable on the two-motored segments "as to raise a serious question regarding the economic feasibility of their operation unless it can be assumed that in addition to intercontinental traffic European cabotage and trans-boundary traffic will be available. In the event it is found that this 'local' traffic is not available to transportation by United States flag carriers it is suggested that advantageous traffic interchange arrangements at European gateway traffic centers might be worked out with foreign carriers."

Crozier pointed out that CAB Vice Chairman Edward P. Warner has indicated his belief that half of the maximum prewar trans-Atlantic travel in the first and cabin classes might be shifted into the air and that the newly created traffic over the Atlantic might well equal twice the amount diverted from previously existing channels.

"If the future confirms this forecast, then approximately 94% more travelers can eventually be expected to move over North Atlantic air routes than the total we have distributed over our projected service patterns and with much more favorable seasonal and directional characteristics than are shown by sea-borne travel," Crozier said.

Travel Originates in U. S.

Crozier hinted strongly that one of the U. S.'s best blue chips at any international conference is the fact that most travel originates in this country. ". . . typically 80% of all first and cabin class travelers from the United States to the European-Mediterranean area are United States residents," he said.

"While it is not suggested that country of generation should constitute the sole measure of sharing in international air traffic by the various participating national companies, it seems reasonable to accord this factor considerable weight in the granting of reciprocal rights. There is some economic justification, at least, for the view that participation in proprietorship, service, revenue, expense and subsidy should bear a just relation to the relative volume of revenue traffic generated by the respective participating countries.

"The relatively superior traffic generating power of the United States is emphasized here because it represents a strategic advantage of possible value in negotiation with other governments for the establishment of cooperative service."

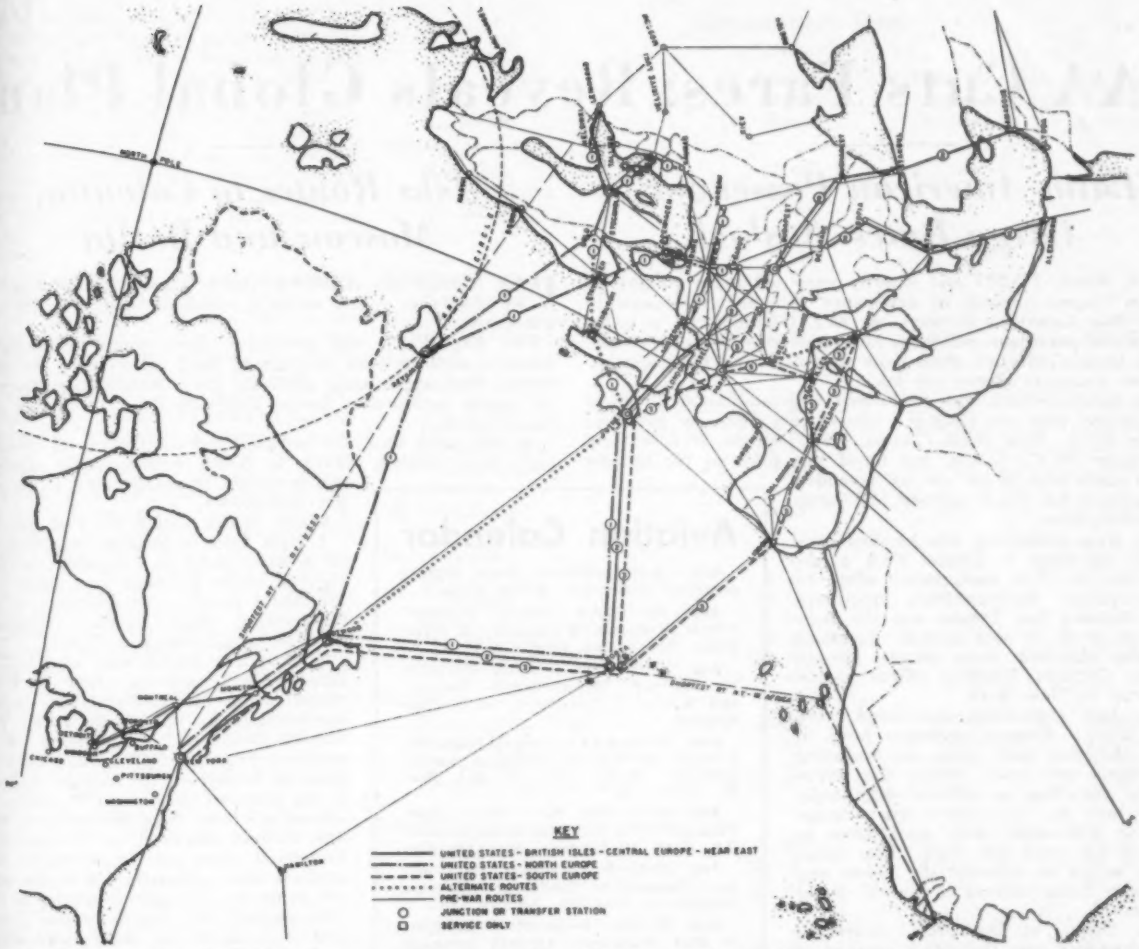
Turning to an appraisal of the three routes laid out in Service Pattern II, Crozier found that:

1. Route 1, projected to serve Northern Europe, has the least indicated volume of traffic of the three routes in the pattern, and the greatest route mileage. However, it seems reasonable to hope that under favorable postwar conditions in combination with the advantages of air transport, there may be a growing community of interest between Northeastern Europe and the United States with consequent growth in both business and personal travel.

Complications Seen

2. Route 2, projected to serve Britain, Central Europe and the Near East, shows slightly greater indicated travel than the combined total shown for route 1 and 3. That part of route 2 between London and New York is the route segment that would most nearly afford a second U. S. carrier. Extension of route 1 or 3 into London would give either of these routes an overwhelming traffic advantage over the other two. A fourth route paralleling route 2 would equalize the traffic among the four then routes. However, such an arrangement would complicate integration of U. S. and United Kingdom interests and might well defeat the prospect of a self-sustaining operation between U. S.-London.

3. Route 3, projected to serve Portugal, Spain, France, South Germany, Switzerland and Italy shows approximately 25% greater indicated travel and slightly less indicated mail than route 1. It seems likely that adequate air transportation will stimulate substantial short duration



Service Pattern II—Comprising three overocean routes, this pattern represents the views of F. H. Crozier, chief of CAB's Research and Analysis Division, on the extent to which competition between U. S.-controlled routes is feasible.

winter pleasure and cultural travel to this area which would be impossible by sea-borne transport due to time considerations.

It was in connection with Route 2 that Crozier advanced the possibility of a joint U. S.-British company.

"Trans-Canada Air Lines taps, or is in a position to tap, major United States air traffic arteries at Seattle, Detroit and New York," he pointed out. "Cooperation between United States interests on the one hand and United Kingdom interests on the other could prove of extreme mutual advantage. However, it seems unlikely that United States carriers could secure substantial Canadian-British Isles traffic unless such carriers were permitted to share operating and traffic rights between Detroit and the British Isles via Toronto and Montreal.

"Unless such rights were granted there would seem to be no economic advantage to the United States to enter into reciprocal arrangements with Canada for the sharing of trans-Atlantic traffic; the traffic to be shared obviously would be of United States-British Isles generation embracing a large preponderance of United States resident travelers.

"The possible advantages are suggested of the United States-United Kingdom combination with Chicago and New York termini, operating minimum daily service through the principal Eastern Canadian cities, Eire, London and thence via route 2 to the Near East and Egypt.

"From the Near East this system might well girdle the globe, thus giving optimum service to the traveling public of its sponsors with minimum government financial support. The United States-British Isles segment of such a joint operation as here suggested should prove not only self-sustaining but should ultimately produce substantial surplus funds to partially defray any deficiency between expense and revenue incident to the operation of the more lightly traveled segments of the total system. No small advantage to such an operation and its sponsors should result from routing first class mail over its routes to the greatest extent practicable."

Discussing all three routes of Service Pattern II, Crozier said, "It is our opinion that the indirect competition between United States carriers, plus the direct competition of participating foreign trans-Atlantic carriers at European traffic centers, would constitute competition to the greatest extent economically feasible."

Fares charged for sea passage in 1938 between the U. S. and Europe were 5c or more per mile for first and cabin class passengers, the study showed. "As international air fares approach a passenger-mile rate of 5c, as they seem destined to do, it seems reasonable to assume that air transportation will divert from surface travel the equivalent of the entire surface volume moving at or above such rate. This does not mean that air travel will cleanly slice off the market at that level. Undoubtedly there will remain a proportion of higher-priced travel reluctant to abandon surface vessels, and a considerable proportion of lower-priced surface traffic should find it desirable to pay a fare differential for the time savings represented by air transportation."

The study pointed out that sea-borne U. S.-Europe letter mail rates at 5c for the first ounce plus 3c for each added ounce, while air mail is 30c per half ounce. "Should all first-class sea-borne mail from the United States to Europe be diverted, by government action, to air transportation it does not seem unreasonable to suppose that the postage rate for this class of service might be very substantially reduced. Undoubtedly such reduction would be necessary if air transportation were to capture the sea-borne first class mail market on a purely competitive basis."

Cargo is not discussed in detail in the study. However, it points out that trans-Atlantic sea-borne cargo moves at typically low rates. Time consideration will be the controlling factor in the creation of overseas air cargo, it stated.

PAA Cuts Fares; Reveals Global Plans

Latin American Passenger, Cargo Rates Slashed

IN A WELL-TIMED and smartly executed press conference that reaped columns of newspaper publicity from coast to coast, Pan American Airways on Aug. 3 announced a broad program of passenger and cargo rate reductions for Latin America to become effective when deliveries of 60 and 108-passenger express transport planes are made.

The announcement was concurrent with additional filings of applications with the CAB for routes from five new gateways in the U. S.: New York, Tampa, New Orleans, Houston and Charleston, S. C. It also was timed just prior to the hearing which starts Sept. 18 on new and amended applications for the Caribbean and Latin American areas.

The press conference was handled personally by Juan T. Trippe, PAA president, in the first such news affair in many years. Various PAA executives also attended but Trippe was the only one to speak to and answer questions for the fifty-odd press people present in the Chrysler Building offices of the company in New York.

The fare reductions announced were very sharp. Present passenger fares in Latin America were given as averaging 8.75 cents per mile. When the entire system reduction is effected—admittedly some time in the future—the average will be 4.25 cents, with some fares as low as 3.5 cents per mile. The latter figure would be substantially below any air fares being offered in the U. S. or the world.

The theme of the press conference announcement was that PAA decided to jump all-out into the mass transportation field to provide service at fares which the "average man" can pay.

Big Time Savings

Quite as startling as the fare reductions were the time savings to be gained by new and faster equipment. Present time from New York to Rio is 66 hours. PAA proposes to fly this distance via a new route through San Juan, P. R., in 19:50 hours, a reduction of 46:10 hours. The flying time from Los Angeles to Buenos Aires would be reduced from 134:30 hours to 31:15 hours, saving over 103 hours.

Trippe would not identify the new planes on order. But the 60-passenger plane he talked about is assumed to be the Lockheed C-69 Constellation, and the 108-passenger plane is assumed to be the Douglas DC-7 of which PAA is understood to have about 26 on order. Or the latter might be a new Lockheed plane mentioned frequently in industry circles and about which nothing has been written to date.

Involved in the plan are new express routes for which the company will battle in CAB hearings. One is the direct New York-San Juan-Caracas cut-off. Another is a series of routes joining at Manaos, far up the Amazon in Brazil, which would shorten considerably the distances between the Canal Zone and the U. S., and Rio and Buenos Aires. It is noteworthy perhaps that the express routes avoid British-owned Port of Spain, Trinidad. Houston would be furnished a direct service to Merida, Mexico and beyond, while New Orleans would be linked to Havana and the south. A new route would go direct across the jungles from the Canal Zone to Manaos. Many other cut-offs are proposed as well.

A brand-new cargo rate plan is offered for the future, too. This was prepared

(Turn to page 22)

Aviation Calendar

Aug. 15-16—Louisiana State Airport planning conference, Baton Rouge.

Aug. 15—"Global Airways Preview" dinner, Kansas City Chamber of Commerce, honor Jack Frye and TWA.

Aug. 17—Western Regional Committee, Aircraft Manufacturers Council, and Board of Governors, ACCA, Los Angeles.

Aug. 18-19—Eastern Information Council Aeronautical Training Society meeting, Parks Air College, East St. Louis, Ill.

Aug. 24-25—SAE Nat'l. West Coast Transportation and Maintenance meeting, Hotel Multnomah, Portland, Ore.

Aug. 29-31—Southeastern State Airport Management Conference, Alabama Polytechnic Institute, Auburn, Ala.

Aug. 29-Sept. 1—American Institute of Elec. Engineers, Aircraft technical papers, Biltmore Hotel, Los Angeles.

Aug. 30—Eastern Regional Committee, Aircraft Manufacturers Council, and Board of Governors, ACCA, New York.

Sept. 4-6—Annual meeting Aero Medical Association, Hotel Jefferson, St. Louis, Mo.

Oct. 3—Air Line Dispatchers Assn. convention, Chicago.

Oct. 5-7—SAE National Aircraft Engineering and Production meeting and engineering display, Biltmore Hotel, Los Angeles.

Nov. 13-14—National Association of State Aviation Officials, annual business meeting, Oklahoma City.

Nov. 15-18—Second National Aviation Clinic, Oklahoma City.

Dec. 4-6—SAE National Air Cargo Meeting, Hotel Knickerbocker, Chicago.

Dec. 6-8—Fifth Annual Convention, National Aviation Trades Association, Jefferson Hotel, St. Louis, Mo.

Jan. 8-12—1945 SAE Annual Meeting and engineering display, Book-Cadillac Hotel, Detroit.

Asks Routes to Calcutta, Moscow and Berlin

PAN AMERICAN AIRWAYS made known last fortnight the worldwide air routes which it wishes to operate in the post-war period.

Pan Am, which had remained silent while practically all domestic airlines were announcing their intentions to fly global routes, filed applications with the Civil Aeronautics Board for air routes to Moscow, Berlin, Calcutta, Cape Town and other major points.

At the same time, the company revealed plans to operate a high-speed express service in South America over shortened routes sought as amendments to its present certificates.

Major routes sought by Pan Am. are:

1. New York to Moscow via Goose Bay or another point in Labrador (with the right to utilize Botwood or another Newfoundland point as an alternate; a point in Iceland; Oslo, Norway; Stockholm, Sweden, and Leningrad, USSR.

2. Extensive amendments to PAA's existing Atlantic permits (New York-Bermuda-Azores-Lisbon-Marseilles, with a London-Lisbon line, and New York-Foynes-London). Amendments to the southern route are (1) include Paris as a point to be served, (2) include Madrid as a stop between Lisbon and Marseilles, (3) extend the route from Marseilles to Rome, (4) include Botwood or another Newfoundland point as an alternate intermediate stop. Amendments to the northern route are (1) include service to Paris, (2) extend the route beyond London and/or Paris to (a) Berlin and Moscow and (b) Geneva, Rome, Athens, Cairo, Basra, Karachi and Calcutta, (3) include an intermediate stop in northeastern Canada when landplanes are used.

Extension to S. Africa

3. Make permanent PAA's Miami-Leopoldville, Belgian Congo route and extend it to Johannesburg and Cape Town, South Africa. New York should be the U. S. terminal, and Lagos, Liberia should be eliminated as an intermediate point, the company said. PAA's Miami-Leopoldville route—a temporary certificate—expired on Aug. 12, 1944.

Two significant clauses were contained in the PAA applications. In amendment to its existing certificates, the company asked "the elimination of the provisions of the said certificate which prohibit the beginning or terminating of trips at points short of terminal points, and limit the frequency of service."

In application for a route to Calcutta, PAA stated that "connection is proposed to be made with an extension of one or more of Pan American's certificates for operation in the Pacific area." If successful, this plan would, except for a route across the U. S., give PAA a round-the-world air route.

The applications revealed that PAA proposes to use "four-engined aircraft of advanced type or types, details as to which will be presented at the hearing."

The company stated that its applications were being made pursuant to CAB's June 14 announcement on worldwide air routes

and to the chief examiner's letter of June 21 setting pre-hearing conferences. "In pursuance of the suggestion made in said release there is incorporated herein a general provision which will permit this application to be considered as an application for any new route or any amendment or extension of an existing route or for any additional point or points within the general area covered by this application which the Board may find to be required by the public convenience and necessity."

In the applications for amendments to its present trans-Atlantic routes, PAA explained that "the amendments herein sought are required (1) to enable Pan American, under its existing certificate of public convenience and necessity for trans-Atlantic service to Europe, to obtain access to the traffic centers of Europe and beyond, which Pan American's trans-Atlantic routes were intended to serve but which could not be included because of technical or diplomatic considerations, and (2) to permit trans-Atlantic flights to be routed from the U. S. to these traffic centers either by route 2 (northern route), the Great Circle Route, or by route 1 (southern), the All Weather Route, or by both, as may appear most advantageous in the light of operating conditions prevailing at different seasons of the year."

The important amendments to PAA's South American routes ask a change in the certificate to Buenos Aires to provide, in addition to the route presently authorized, a more direct course between San Juan and Asuncion by omitting present intermediate points and including stops at Caracas, Venezuela, and Manaos, Brazil.

The amendments also ask:

1. A more direct Canal Zone-Rio service, omitting present stops and including Bogota, Colombia and Manaos, Brazil.

2. Amend Miami-Canal Zone to include Havana as an intermediate stop.

3. Amend Miami-Nassau to authorize service to Santiago, Cuba, where connection will be made with other southbound service.

4. Amend Puerto Rico-East Coast of South America service to (a) authorize service from and to Havana, connecting with other routes at Santiago, (b) from and to Havana connecting at Kingston, and (c) eliminate restriction against carrying mail on Port-au-Prince-Santiago-Kingston.

5. Amend Brownsville-Mexico City to authorize Mexico City-New Orleans service and to extend the route from Brownsville to Houston, Tex. (without right to carry local passengers between the latter two points).

6. Amend New Orleans-Guatemala City to include New Orleans-Havana and Barranquilla-Houston service.

7. Substitute Balboa for Cristobal and Caracas for La Guaira in PAA certificates.

8. Include Santiago, Cuba, as intermediate point on Miami-Port-au-Prince, Curacao on Cuidad Trujillo-Caracas, and Sao Paulo on Rio de Janeiro-Porto Alegre.

"Pan American believes that no other carrier is or could be in a position to offer to the public the variety of schedules and routings that would be made possible by the cut-offs and other amendments of its existing certificates herein proposed," the application said. "Every point outside the continental U. S. referred to in the amendments is already served by Pan American or by one of its affiliated national companies.

"Pan American is confident that, because of this fact, the proposed operations can be conducted by it at a cost far lower than would be possible for any other company and that with the more efficient aircraft which will be available and the more effective utilization of its ground equipment and personnel which will be made possible by increased intensity of service, all of its Latin American services can be operated at substantially reduced tariffs for passengers and express."

Comparative Time

(Elapsed)

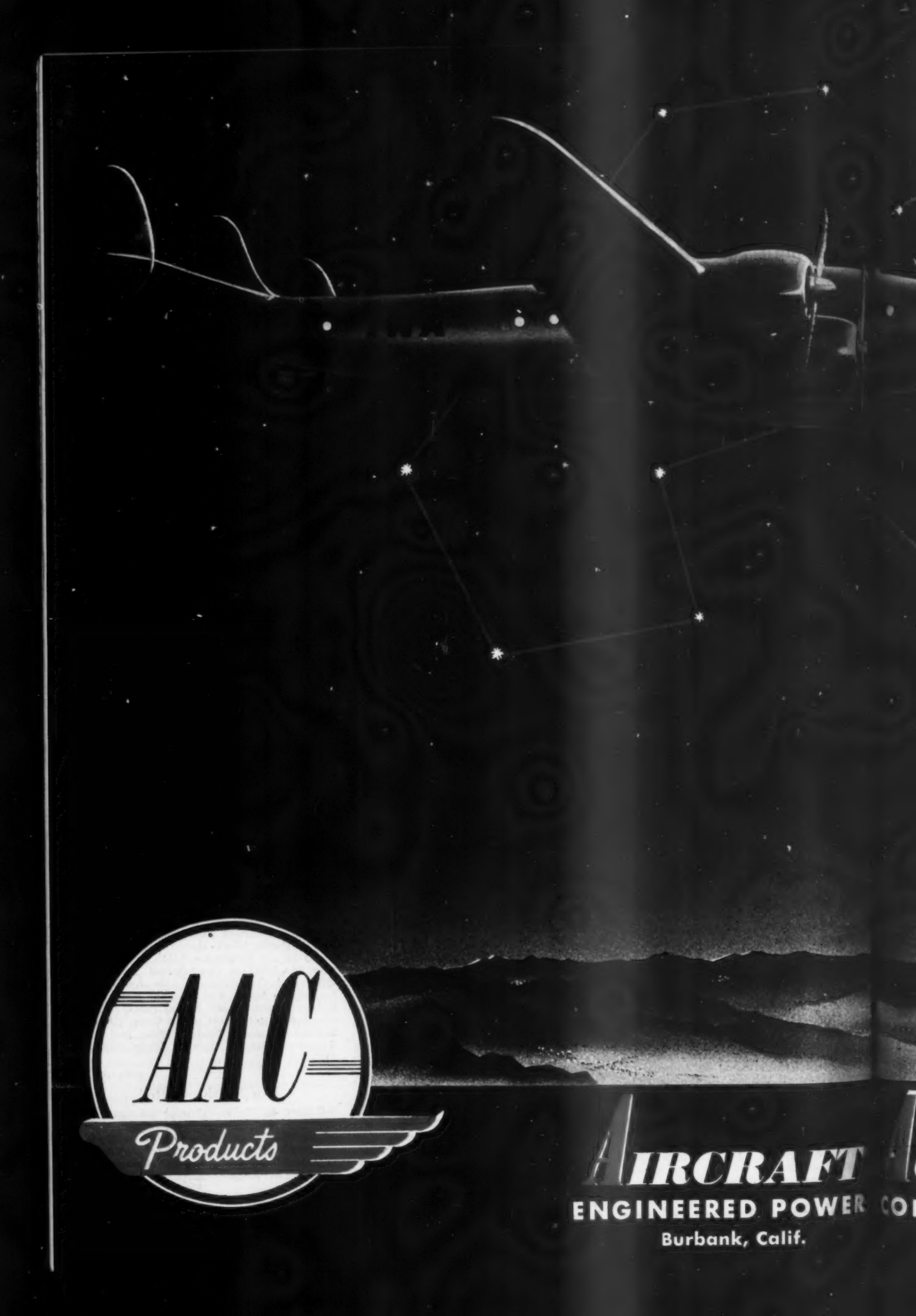
Route	Time Via Present Routes	Time Via Proposed Routes	Saving in Time by use of Proposed Routes
New York-			
San Juan	17:40	5:24	12:16
Port of Spain	23:25	8:09	15:16
Rio de Janeiro	66:00	19:50	46:10
Buenos Aires	91:15	21:25	69:50
Charleston-			
Nassau	11:10	2:05	8:55
Rio de Janeiro	61:15	39:15	22:00
Buenos Aires	86:30	52:50	33:40
Miami-			
San Juan	8:35	3:40	4:55
Rio de Janeiro	56:55	18:10	38:45
Buenos Aires	82:10	19:50	62:20
Balboa	6:35	4:05	2:30
Tampa-Havana	3:15	1:50	1:25
New Orleans-			
Mexico City	8:55	3:15	5:40
Guatemala	13:15	4:20	8:55
Balboa	12:50	6:15	6:35
Rio de Janeiro	83:55	20:30	63:25
Buenos Aires	109:10	25:30	83:40
Houston-			
Barranquilla	33:50	6:59	26:51
Mexico City	6:35	4:10	2:25
Rio de Janeiro	87:35	36:29	51:06
Buenos Aires	112:50	42:29	70:21
Los Angeles-			
Balboa	35:45	12:15	23:30
Rio de Janeiro	109:15	27:15	82:00
Buenos Aires	134:30	31:15	103:15
Mexico City-			
Rio de Janeiro	95:50	18:45	77:05
Buenos Aires	122:30	25:45	97:35
Balboa-Rio de Janeiro	56:15	13:30	42:45
Caracas (La Guaira)-Buenos Aires	73:50	13:10	60:40

CAB Drops Philadelphia Airport Investigation

Northeast Airport should soon be suitable for use by commercial aircraft serving Philadelphia, and the CAB will not continue its investigation into conditions surrounding use of Philadelphia Municipal Airport, according to a CAB order issued last fortnight.

The order, dismissing the investigation, stated that "as a result of the investigation conducted . . . it appeared to the Board that the resumption of airline operations at the Philadelphia Municipal Airport would entail a responsibility in increasing the hazard to the City of Philadelphia, as a result of the intensified military activities in the vicinity, which could not be justified if the Northeast Airport at Philadelphia could be made available for such operations . . .

"The Board advised the President that the restoration of air service to Philadelphia was sufficiently important to require the expenditure of Federal funds to make the Northeast Airport adequate for airline operation . . . Funds were made available for the completion of the Northeast Airport . . . construction is now under way and . . . the said airport should be suitable for the operation of commercial aircraft in the near future."


AAC
Products
AIRCRAFT
ENGINEERED POWER
Burbank, Calif.

A Constellation is composed of many Stars

THERE'S a new constellation in the skies, a star of stars... a new master of the heavens. This great ship, conceived by TWA... built by Lockheed, holds a mighty promise, a promise of tremendous developments in peacetime air transport. We are proud to share in its record-breaking glory and in its promise... proud that AAC Hydraulic Controls are among the many stars which make up this Constellation. These precision units are another mark of AAC leadership in Engineered Power Controls... in the air, on land, and on the sea.

(P-74)

POWER CONTROLS DIVISION

BURBANK, CALIFORNIA

T ACCESSORIES CORPORATION

ER CONTROLS • PRECISION RADIO *and* ELECTRONICS

Kansas City, Kans. Cable Address: AACPRO

30 Sales Centers Set Up for Surplus Planes

CAA Personnel, Working With New DPC Division, to Receive Bids at Nationwide Chain of Outlets

THE GROUNDWORK has been laid for the mammoth job of disposing of America's "surplus" airplanes and the pattern began to take shape last fortnight when the Defense Plant Corp., which will sell government-owned planes for the Reconstruction Finance Corp., announced the locations of the first 30 of a nationwide chain of sales centers where war surplus airplanes will be put up for bid.

Handling the sales at a policy level will be a new division of DPC known as the Surplus War Aircraft Division. Actual sales, for the present, will he handled by Civil Aeronautics Administration personnel, working in cooperation with the new DPC unit.

Heading the Surplus War Aircraft Division as chief is James A. Garfield, originally of Cleveland, who has been in administrative work with DPC for some time and who has a background of both private business and government experience. Most of the top-bracket personnel have been appointed and are at work under Garfield.

The program is still in the initial stages and for the present DPC will sell mostly lightplanes—types and models considered to have a ready market, and so far it appears that the planes will be bought up rapidly.

Sales will not include two-engine models in excess of 5,000 pounds gross weight—planes suitable for air transport purposes. Because of the shortage, such planes will be allocated to purchasers through the office of Surplus War Property Administrator Will L. Clayton, where essentiality of use must be shown.

Ceiling Prices or Bids

Purchasers may obtain planes at the sales centers immediately upon payment of the OPA ceiling prices. Otherwise, bids are required and DPC reserves the right to reject unsatisfactory bids.

Prospective purchasers may obtain full information regarding planes to be offered for sale by requesting to be placed upon "Invitation to Bid" lists sent out from CAA regional offices. These lists explain in detail how to bid, describe the airplane model and horsepower, the location of the plane, the OPA ceiling price, and the date of sale.

Planes will be disposed of on an "as is" basis without warranty.

Many people in the aviation industry felt that the surplus plane disposal setup had become confusing with announcement of the new DPC Surplus War Aircraft Division. Spokesmen explained that this Division represents the transition from policy level to working level where planes actually will be stored and sold by CAA personnel working in cooperation with the Division.

At the top is Lt. Col. William B. Harding, director of the Surplus War Property Administration's Aviation Division (*American Aviation*, July 1 P. 30), whose task is strictly one of determining policy. Also operating under SWPA Administrator Will Clayton is Mason Britton, who will directly supervise the disposal of surplus aircraft and certain industrial plants. (*American Aviation*, Aug. 1, P.

(Turn to page 28)

Pogue Report, Concise Guide on Disposal Policy, to Chart U. S. Course for Satisfying Market

AS DISPOSAL of war surplus lightplanes got under way in the U. S. last week in the face of a hungry market, and larger cargo and transport planes remained unavailable, Government disposal agencies had before them a carefully prepared guide on disposal policy—the 24-page report of the Surplus Aircraft Advisory Subcommittee appointed by Surplus War Property Administrator Will L. Clayton and chairmaned by the head of the Civil Aeronautics Board, L. Welch Pogue.

Most of the cardinal principles which probably will govern disposal of surplus aircraft and which attempt to avoid the aviation pitfalls which followed World War I are wrapped up in the concise report of the Pogue committee.

Essentially the recommendations are based on the premise that airpower is now the key to national security.

In this respect they reflect the beliefs of the aircraft industry itself which repeatedly has harked back to the Morrow Board of the 1920's—the first public body to recognize the necessity of continued creative experimentation and development in the aircraft field on an industry basis in order to keep pace with potential enemy nations.

The primary consideration in surplus aircraft disposal, said the Pogue Committee, should be "preservation, as a national asset, of the capacity of our permanent aircraft manufacturing industry for reasearch, development and production of modern aircraft."

Knotty Problem Seen

At the same time, the Committee took cognizance of the "world-wide political and economic significance attached to surplus aircraft," and commented that there will be important questions of national and international policy involved in the division of surplus aircraft between domestic and foreign markets in the establishment of sales and pricing policies.

The committee especially warned that the specific allocation of transport aircraft will be a knotty problem.

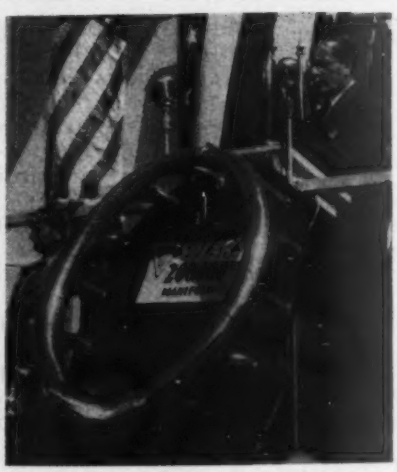
"Policy determinations on these matters should combine national and international perspective, should be coordinated, and should be sensitive to conditions which are certain to be changing rapidly," the report emphasized.

While citing this necessity for broad perspective, the Committee also pointed out the importance to the industry of establishing factory-customer relationships at the earliest possible time, both in the U. S. and abroad, and recommended "that the aircraft manufacturers be permitted to act as the government's agent, at reasonable fees, in disposing of surplus transport aircraft."

In the foreign field, the Committee recommended that the experience gained by the Defense Supplies Corp. be utilized in connection with the disposal and allocation of aircraft abroad.

One recommendation of the committee has already been put into effect by Defense Plant Corp. in its announced plans for surplus airplane sales—that planes be sold "as is" and have the necessary

Solar Made Pots, Pans To Stay in Business



Solar's 200,000th— Edmund T. Price, president of Solar Aircraft Co., San Diego, Cal., is shown making a speech during a recent ceremony marking completion of the company's 200,000th exhaust manifold (shown in front of rostrum). Solar has won the Army-Navy Award four times.

When Solar Aircraft Co. employes and visiting dignitaries gathered recently in San Diego for ceremonies marking completion of the company's 200,000th exhaust manifold, they heard President Edmund T. Price tell how the company had staved off bankruptcy in aviation's lean days to become a major unit in fighting the war.

"In 1929 we were on the verge of receivership with an all-metal plane on our hands but no customers, due to the stock market crash. Temporarily, we turned to manufacturing pots, pans and beer barrels to 'raise an honest dollar' and keep out of bankruptcy," he said.

"During the early '30's we were trying to build up a business of manufacturing exhaust manifolds—a screwy product which required salesmanship to convince the army, navy and air lines that some manifolding was necessary."

Two hundred and fifty companies went broke, and Solar struggled hopelessly with its debts more than five times its total assets. Twenty-seven employes went without pay for six weeks until products could be made and sold, Price related.

THAT OUR COUNTRY MIGHT *Out-Devise* THE ENEMY

Small example of a BIG PROGRAM inaugurated at the outset of war

By developing an ammunition box of phenolic cloth laminate to replace one of stainless steel, Curtiss engineers simultaneously accomplished a saving of critical metal, economy of weight and a reduction in cost. Three important advantages accruing from the change of a single part!

When the war started, Curtiss-Wright instituted its own program of strategic material savings. Today many of the then critical materials are no longer on the list, but the program has been broadened to include the whole field of material research.

Lighter, stronger materials have been developed and many more are on the horizon. Not only will they increase the speed and effectiveness of our fighting aircraft but, in days to come, will make possible greater payloads for the Curtiss Transports that will fly the skies of Peace. Curtiss-Wright Corporation, Airplane Division, Buffalo, Columbus, St. Louis, Louisville.

Another Contribution of

Curtiss-Wright

Toward Winning This War

Member, Aircraft War Production Council, East Coast, Inc.

GI's ... by proxy

Whether it's forty degrees below zero in Alaska or one hundred and seventy in the sun at Iran, the technical representatives of Bell Aircraft's field service staff help keep thousands of Airacobras flying... and fighting in the far corners of the world.

The first technical mission sent to Russia by an American manufacturer consisted of Bell Aircraft servicemen and engineers. These men gave valuable technical information to the Red Air Force to assist their engineering officers and ground crews in servicing and maintaining the thousands of Bell fighter planes on the Eastern front. In return they brought back first hand knowledge of Airacobras in action which has aided us in producing even more effective air weapons.

Theirs is a dangerous life. They are civilian G I's who play an important part in helping the Army Air Forces and our Allies to keep 'em flying. Here in America, they serve nine commands of the Army Air Forces—living a soldier's life on the California desert or in the swamps of Florida—in order to learn how to work under actual war conditions.

Some of these Bell Servicemen are now studying the new powerful fighter plane coming from our Niagara Frontier Division. Some are giving their entire attention to the flexible machine gun mounts made by the Bell Ordnance Division. Others are taking a special course on America's first jet propelled plane designed and built by Bell Aircraft —as spectacular in its way as the B-29 Super-fortresses of which Bell Aircraft is one of the producers in its bomber plant at Marietta, Ga.

And when the new Bell helicopter becomes available for general use, the service department will add this latest Bell Aircraft development to its activities. © Bell Aircraft Corporation.

MEMBER AIRCRAFT WAR PRODUCTION COUNCIL—EAST COAST, INC.

BELL *Aircraft*

PACEMAKER OF AVIATION PROGRESS

Niagara Frontier Division, Buffalo and Niagara Falls, N. Y.—Ordnance Division, Burlington, Vt.—Georgia Division, Marietta, Ga.

BUY WAR BONDS AND SPEED VICTORY

overhaul, modification and refurbishing done where the prospective user chooses.

The subcommittee, appointed by Clayton on March 9, held lengthy hearings with representatives of the manufacturing industry, air transport companies, labor organizations and other aviation interests. Under the chairmanship of Pogue, members of the Committee were: Stokeley W. Morgan, chief, Aviation Division of the State Dept.; Col. F. Trubee Davison, AAF; Rear Admiral Lawrence B. Richardson, USN; William A. M. Burden, assistant secretary of commerce for air; Walter E. Joyce, vice president, Defense Plant Corp.; Paul T. David, Bureau of the Budget; William D. Pawley, Foreign Economic Administration.

When Clayton announced the findings of the Committee, he pointed out that the number of aircraft to be declared surplus after the war will depend largely on the size of the U. S. permanent armed forces.

Dumping to be Avoided

Among principal recommendations of the Pogue Committee were:

Dumping of surplus aircraft, regardless of price, is not to be considered; on the other hand, the scrapping of all surplus aircraft would be a disservice to aviation and a needless destruction of national wealth.

Disposal in an orderly and controlled manner, at reasonable prices, utilizing normal trade channels is recommended.

Surplus aircraft of which disposal has not been made at the end of three years following the cessation of hostilities, should be classified as unabsorbed surplus to be utilized only for non-flight purposes, salvage and scrapping.

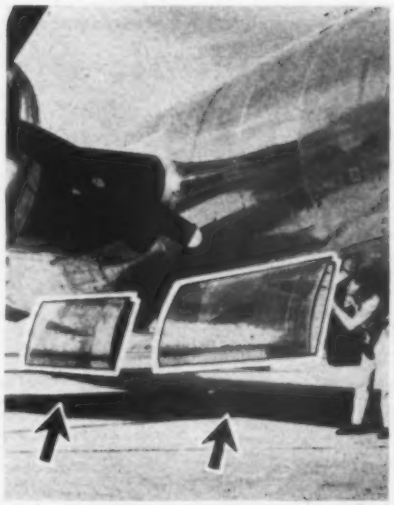
In major respects, with a few exceptions, the report endorsed the findings of the Harvard University Graduate School of Business Administration, in a study made at the request of the aircraft industry (*American Aviation*, July 1, P. 24). As did the Harvard report, the Pogue Committee divided surplus aircraft and equipment into five categories, with the following recommendations:

"Transport aircraft. There will be a period of short supply during which the Surplus War Property Administrator must effect an equitable distribution among domestic and foreign applicants. Ultimately supply will exceed demand. Aircraft manufacturers should be permitted to act as the Government's sales agents, for a reasonable fee. Aircraft should be sold "as is," leaving purchasers to make their own arrangements for overhaul and conversion. Methods of disposal should include lease, cash sale, installment sale. Prices should be uniform to domestic and foreign purchasers and should remain firm during the disposal period.

"Personal aircraft. Aircraft for which there is an active demand should be sold "as is" for cash as promptly as possible. Aircraft for which there is little demand should be offered at a fixed price. A reasonable number of trainers should be stored for future use in college-type training programs.

"Aircraft equipment and components. Smaller items, for which the major market will be in the non-aviation field, should be sold under policies similar to those recommended for personal aircraft. The larger and more complex items, such as engines and propellers, should be consigned to the original manufacturers for inspection and disposal, the manufacturer acting as selling agent for the Government. Prices should be established on a basis that will encourage technical development in the interest of national defense. A low price should be set for certain types of instruments, such as the blind flying group, in order to encourage their use for training purposes.

"Unabsorbed surplus. The most important use in this category will be educational, that is, for ground and shop training and for exhibition purposes. Experimental and memorial uses are other possible methods of utilization. Non-aviation uses of aircraft parts and components should be given careful study. All aircraft and equipment for which no permissible uses can be found should be scrapped under the supervision and control of the disposal agencies within six months after their transfer to this class."



Two Bomb Bays—The War Department has revealed another B-29 secret: two bomb bays instead of one. The Superfortress can carry a greater bomb load farther and higher than any military plane now in existence, but the exact bomb capacity still is restricted information.

Battle-Wise Pilots Stream Through Wright Field With Ideas for Improving Planes

A steady stream of Army Air Forces officers and men with battle experience is flowing through the laboratories and offices of the AAF Materiel Command at Wright Field to give the benefit of their first-hand experience to AAF engineers and scientists, the Command reports.

Wright Field has first call on AAF experts in every field from photography to medicine. For example, among those temporarily stationed at the Materiel Command at present are Lt. Col. B. C. Powers, who led the first photo-reconnaissance group into action in the war; Capt. Don Gentile, one of the war's outstanding aces; Capt. R. B. Amacker, the first AAF armament man to land on Guadalcanal; Lt. P. G. Hall, who was awarded the Purple Heart and Air Medal with seven oak leaf clusters for his exploits as a B-25 pilot in North Africa, Sicily, Yugoslavia, and Italy; and Capt. John M. Donegan, who holds the Air Medal, the Distinguished Service Cross, the Purple Heart, and the Soldiers Medal for action in the Southwest Pacific.

House Committee on Trip Studying Legislation Needs

An almost month-long trip for a first-hand education as to what it can and should do in respect to aviation legislation now is under way by the aviation subcommittee of the House Interstate Commerce Committee.

The 11 men, nine members of the committee, clerk and a representative of the Civil Aeronautics Board and the Air Transport Association—left Washington Aug. 4 and will not return until Aug. 29.

The committee desires to ascertain what are the future problems of civil aviation, what are the needs of civil aviation, and what can be done to help civil aviation through legislation.

The itinerary started in Chicago Aug. 7 with an inspection of United Air Lines hangars, cargo handling facilities, instrument training and medical center. In St. Paul the committee inspected Northwest Airlines and Mid-Continent Airlines facilities and visited the Northwest Modification Center. The flight from St. Paul to Alaska was by Air Transport Command with an overnight stop at Edmonton, Canada. Stops were on the schedule for Fairbanks, Nome, Anchorage, Juneau before going to Seattle. The group was to tour the Boeing Aircraft plant while at Seattle. Inspection of Pan American Airways facilities at San Francisco, trips to the Lockheed and Douglas plants after a flight to Los Angeles, are on the schedule.

In Denver August 24

The committee plans to be in Denver Aug. 24 to inspect Continental Airlines facilities and modification center, then go to Kansas City Aug. 26 to tour Transcontinental & Western Air installations.

Those making the trip are Rep. Alfred Bulwinkle (D., N.C.), chairman, Rep. Virgil Chapman (D., Ky.), Rep. Lyle H. Boren (O, Okla.), Rep. Lindley Beckworth (D., Texas), Rep. J. Percy Priest (D., Tenn.), Rep. Richard F. Harless (D., Ariz.), Rep. Carl Hinshaw (R., Cal.), Rep. Evan Howell (R., Ill.), Rep. Joseph P. O'Hara (R., Minn.), Elton J. Layton, committee clerk, Edward P. Warner, C.A.B. member, and John Groves, director, Operations Division, A. T. A.

Railroad Plans to Use Helicopter

Route surveys in preparation for post-war helicopter passenger service are being made by the Burlington Transportation Co., subsidiary of the Burlington Railroad. Helicopters will follow generally the present train and bus routes, but on much faster schedules, K. B. Charlesworth, Denver superintendent for the company, predicts.

Surplus Plane Disposal

(Continued from page 26)

29). Both Lt. Col. Harding and Britton are in the policy-making bracket of the Surplus War Administrator's office. DPC's Surplus War Aircraft Division will see that their policies are carried out in the sale of planes.

Here is the top personnel of the Surplus War Aircraft Division, with background highlights:

James A. Garfield, chief: one-time Cleveland lawyer; formed and became chairman of the board of Christiansen Air Brake Co., 1922-27; partner in an investment trust management in New York for five years; engaged in industrial research work in the electrical industry for several years; assistant to executive vice president of U. S. Commercial Co. (formed by RFC, now under FEA); recently in administrative work with DPC.

E. L. Traylor, in charge of sales and operations: 12 years with an Oklahoma City Bank; eight years in personnel work with Oklahoma Publishing Co.; three years manager of Southern Aviation school, Oklahoma City; made Superintendent of CAA Region I, New York, in December, 1943.

Thomas A. Wadden, operations, in charge of appraisals, location of planes, etc.: 10 years banking experience; assistant to Commissioner Hill of U. S. Shipping Board; real estate operator several years; joined examining division of RFC in 1932; assisted in plane purchasing program of DPC for War Training Service.

E. E. Lothrop, in charge of component parts: graduate of Royal Canadian Air Force, Toronto; vice president and managing director, Skyways, Ltd., Toronto and Montreal (school); manager of service and assistant director of sales, Horace E. Dodge Boat & Plane Corp., 1930-35; manager of marketing division, aviation transportation, Westinghouse, 1935-42; assistant general sales manager, Sperry Corp., until February, 1944, when he became director of Research and Statistics for the Aeronautical Chamber of Commerce.

George A. Elfman, advisory capacity in operations: architectural engineer with several years in general contracting work; flyer and ground school instructor; in charge of maintenance facilities at Congressional Airport, Washington, several years; had charge of maintenance for Brinkerhoff Flying Service; in 1940, assistant inspector of engineering construction on Pentagon Building; in 1942, with Aviation Division of Rubber Development Corp.

RFC Director Jesse Jones announced last fortnight that Federal agencies had declared surplus to RFC planes and aircraft equipment totaling $66,007,247. He listed 5,130 planes acquired at a cost of $60,167,997; a total of 777 gliders at a cost of $2,107,400; shoring assemblies at $708,165; and aircraft equipment worth $3,023,685.

Jones' tabulation, as of July 15, showed only one plane disposed of at a sales price of $25,000. The cost of the plane was shown as $130,500.

At the war surplus airplane sales centers, contracts have been made with the operators of airports or other facilities, but sales will be handled directly by DPC and no commissions will accrue to the operators of the facilities, it was announced.

Sales centers announced up to Aug. 5 were:

Jennings Bros. Air Service, North Grafton Airport, North Grafton, Mass.; Albany Aircraft Co., Albany Airport, Albany, N. Y.; Bettis Airport, Pittsburgh, Pa.; J. D. Gillespie, Gillespie Airport, Nashville, Tenn.; Clarence Ludwig, Sky Harbor Airport, St. Petersburg, Fla.; Akron Airways, Municipal Airport, Akron, Ohio; Robert Slamp Flying Service, Lord-Lansing Airport, Lansing, Ill.; Lysdale Flying Service, Victory Airport, Minneapolis, Minn.

Cutter-Carr Flying Service, West Mesa Airport, Albuquerque, N. M.; Thor Solberg, Solberg-Hunterdon Airport, Readington, N. J.; Aushburn Flying Service, Hyblo Valley Airport, Alexandria, Va.; Cannon Aircraft Sales & Serv., Inc., Cannon Airport, Charlotte, N. C.; Chapman Air Service, Callendar Airport, New Orleans, La.; Hughes Flying Service, Capitol City Airport, Lansing, Mich.; Cincinnati Air Service, Lunken Airport, Cincinnati, Ohio.

Racine Flying Service, Horlick-Racine Airport, Racine, Wis.; Aviation Enterprises, Ltd., Municipal Airport, Houston, Tex.; Harte Flying Service, Municipal Airport, Wichita, Kan.; Brayton Flying Service, Inc., Municipal Airport, Robertson, Mo.; Des Moines Flying Service, Municipal Airport, Des Moines, Iowa; Dakota Aviation Co., Municipal Airport, Huron, S. D.; Southwest Airways, Sky Harbor Airport, Phoenix, Ariz.; Heasley Flying Service, Rosemead Airport, Rosemead, Cal.; Morrison Flying Service, Municipal Airport, Helena, Mont.

Ong Aircraft Corp., Ong Airport, Kansas City, Mo.; Central Aviation Corp., Municipal Airport, Omaha, Nebr.; Great Plains Aviation Co., Dupont, Colo.; Thompson Flying Service, Municipal Airport No. 1, Salt Lake City, Utah; Aviation Activities Co., Concord, Cal.; Hilsen Aero-Service, Calkins Airport, Spokane, Wash.

In addition to sales centers, certain airfields and facilities owned or controlled by the Defense Plant Corporation, which are being released by the armed services, will be utilized in the surplus aircraft disposal program. Some of these airfields will be used as sales and storage centers, others only for storage purposes.

Sales and storage centers have already been established at: Hicks Field, near Fort Worth, Tex.; Cimarron Field, near Oklahoma City, Okla.

Storage depots at: Harris Field, Cape Girardeau, Mo.; Ponca City Municipal, Ponca City, Okla.; McKellar Airport, Jackson, Tenn.; Embry Riddle Field, Union City, Tenn.; Gibbs Field, Fort Stockton, Tex.; Harrell Field, Camden, Ark.; Augustine Field, Jackson, Miss.; Chester Field, McBride, Mo.; Hat Box Field, Muskogee, Okla.; Cuero Municipal, Cuero, Tex.; Thompson Robbins Field, West Helena, Ark.; Lamesa Field, Lamesa, Tex.; Echeverria Field, Wickenburg, Ariz.; Victory Field, Vernon, Tex.; Bush Field, Augusta, Ga.; Gary Field, Blythe, Calif.; Lafayette Field, Lafayette, La.

Delivery of planes to some of the sales centers, sales and storage centers and storage depots has already been initiated. Complete deliveries will be effected under schedules being developed by the Army Air Forces. The army services will, over a period of time, declare a large number of airplanes surplus, but only a small fraction of such total surplus will be adaptable for use as personal aircraft. The supply of surplus planes for personal use will, in all probability, be far short of demand, Mr. Jones said. There is a limited number of light 65 horsepower trainers, and it is expected these will be sold as quickly as they are put up for sale.

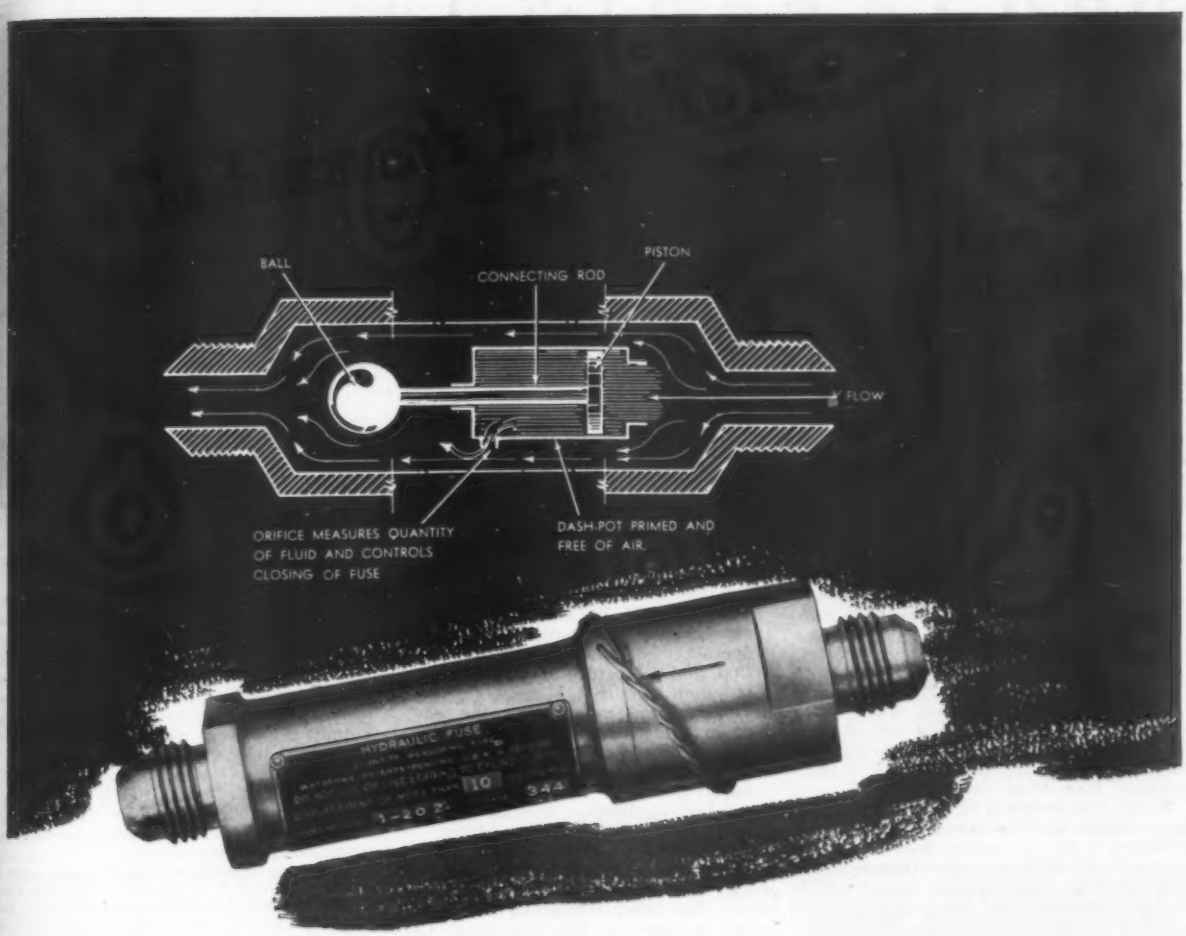
America's Largest— Biggest four-blade hollow steel propeller in quantity production in this country, this eight-inch propeller is being produced by Curtiss-Wright Corp. at Caldwell, N. J. It is designed to absorb 3,000 hp.

More Army and Navy primary trainers have been declared surplus than light trainers. These planes range from 165 hp to 220 hp. They will be economical for private operators and have proven to be very successful for training purposes. There is also a limited number of advanced light twin-engine trainers for disposal, such as the Beechcraft and Cessna, which are easily adaptable for executive or small feeder line cargo use. Large twin-engine cargo airplanes, which will be in demand for commercial transport purposes, will not be available except in very limited quantities until the war ends and the number to be released is not known as present.

Regulation No. 1 issued by Surplus War Property Administrator Will Clayton following his appointment, designated the Reconstruction Finance Corp. as the disposal agency for surplus aircraft in the continental United States and its territories and possessions. It designated the Foreign Economic Administration, of which Leo T. Crowley is chief, as the disposal agency for surplus aircraft abroad. Thus, under this regulation, Defense Plant Corp. becomes the surplus airplane disposal agency in the U. S.

U. of Illinois Appointment

Henry S. Stillwell, head of the University of Kansas aeronautical engineering department, has been appointed to a similar position at the University of Illinois. The Illinois aeronautical engineering department, in the process of formation for many months, was endorsed by the school's Aeronautics Advisory Board, composed of prominent persons identified nationally in the aircraft industry. The campus building which has served in recent years as a locomotive testing laboratory is being converted into an aeronautics laboratory.



Again Simmonds pioneers . . . this time in the development of a successful hydraulic fuse for the positive protection of vulnerable hydraulic lines.

What the manufacturers and users of hydraulic systems have long been looking for — a safety shut-off device to protect the system from complete failure in the event of a ruptured line — is now available in the Simmonds Hydraulic Fuse for aircraft hydraulic systems and for various industrial applications.

The function of the Simmonds Hydraulic Fuse can be likened to that of the electric fuse. Neither fuse affects normal operation of the system. But when the flow in either circuit becomes excessive, the fuses act to shut off the lines they protect.

Quickly installed, the Simmonds Fuse is light in weight (approximately 3 oz.). It operates successfully regardless of variations in either oil viscosity, pressure, or rate of flow. Also, it is not affected by back pressure, surges, or large amounts of air left in the system by incomplete bleeding. Of the quantity measuring type, it is intended for two-way flow lines. Successful installations of the Simmonds Fuse as a delayed action restrictor valve have also been made, greatly simplifying hydraulic cylinder design.

All parts manufactured in accordance with AN specifications, the Simmonds Fuse is being specified for many of America's leading aircraft. For further details on its construction, installation, and sizes, write today for free folder.

SIMMONDS EQUIPMENT FLIES WITH EVERY TYPE OF ALLIED AIRCRAFT

Automatic Engine Controls
Push-Pull Controls
Hydraulic Accumulators
Hydraulic Fuses
Chronometric Radiosondes
Spark Plugs
Self-Aligning Rod-End Bearings
Fasteners and Clips of Specialized Design

SIMMONDS AEROCESSORIES INC.

30 Rockefeller Plaza, New York 20, New York

Customer Service Offices: Dayton • Washington • Hollywood • Montreal

Manufacturing Plants: New York • Vermont • California

CAB Orders General Study Of Non-Scheduled Service

Hearing to be Held On 'Unregulated' Plane Operations

A GENERAL investigation into matters relating to and concerning non-scheduled air transportation was ordered last fortnight by the Civil Aeronautics Board.

Numerous applications have been received by the Board from persons wishing to operate air services on a non-scheduled basis. Of these applications, 29 were filed immediately after the effective date of the Civil Aeronautics Act seeking rights pursuant to the "grandfather" clause.

To date, no action has been taken on any application proposing non-scheduled operations. However, in October, 1938, CAB issued an order exempting non-scheduled operators from the requirements and regulations governing the granting of certificates of convenience and necessity.

Almost Free Rein Exists

Board spokesmen point out that non-scheduled air transportation is one of the most "unregulated" aviation operations. The exemption order, Section 292.1 of the Economic Regulations, states:

"Within the meaning of this regulation, any operation shall be deemed to be non-scheduled if the air carrier does not hold out to the public by advertisement or otherwise that it will operate one or more airplanes between any designated points regularly or with a reasonable degree of regularity upon which airplane or airplanes it will accept for transportation, for compensation or hire, such members of the public as may apply therefor or such express or other property as the public may offer."

Thus, it is pointed out, an operator might make, for example, contracts with several firms to carry their goods. As long as he did not make his services available to the general public, he could operate between any points in the U. S. without CAB interference, as long as safety requirements were met.

Most recent non-scheduled operation to receive attention was that of Col. Roscoe Turner between Memphis and Detroit. CAB officials, however, emphasize that the investigation was not occasioned by opening of this service, but has been in preparation for several months.

These same officials also emphasize that they have open minds regarding non-scheduled operations, and hope to learn much from the investigation. It may develop, they point out, that non-scheduled services should not be regulated to anywhere near the degree that scheduled operations are controlled.

The investigation will include an inquiry into:

1. The extent to which there may be a general need for such services.
2. The type or types of operation best adapted to the performance of the transportation service required to meet such a need.
3. The facilities (airports, airways, aircraft, etc.) best adapted to the types or type of operations which appear most desirable or feasible.
4. The extent to which such facilities are or may become available.
5. The conditions which generally should be regarded as sufficient to justify the authorization of such operations.
6. The extent to which such operations should be grouped or classified separately from other operations.
7. The extent to which carriers conducting such operations should be grouped or classified separately from other carriers.
8. What if any basis or bases exist, and appear appropriate or warranted, for general application in classifying operations or carriers.
9. The extent to which such operations should be subjected to restrictions to prevent uneconomic operations or uneconomic competition, and the nature of any such restrictions.
10. Problems relating to the coordination of any different type or classes of operation.
11. The extent to which existing requirements of law or regulation, or their application to such operations, can or should be modified.

A hearing will be held before an examiner of the Board and all interested parties will be invited to express their views. The order instituting the investigation was sent to the Postmaster General, CAA Administrator, chairman of all state regulatory bodies having jurisdiction over aviation, all air carriers, all applicants for certificates of convenience and necessity, aeronautical manufacturing and trade associations, airline personnel associations, and airport managers.

Prop Stopper— This new propeller blade shaper, which grinds and polishes duralumin blades by a strop, or continuous belt, has been put in operation by Hamilton Standard Propellers. It has a surfaced speed of 5,000 ft. per minute, and grinds to a precision of one-10,000 of an inch.

Cyclones Break Record

Four Wright Cyclone engines in a Flying Fortress have flown 1,134 hours and 15 minutes without overhaul, Wright Aeronautical Corp. reveals. The engines, which have flown approximately 200,000 miles and have been in the air 47 hours, are in a B-17 at Tyndall Field, Fla. After breaking by 59 hours the previous mark recognized by the Air Service Command at Wright Field, the engines have been removed.

Radio Commission Revived for Study Of VHF Technique

The Radio Technical Commission for Aeronautics, prewar activities of which were halted by the entry of the United States into the war, has been reactivated, according to Dr. J. H. Dellinger, chairman.

The Commission is the only common meeting ground between aeronautical communications agencies of the Army, Navy, Civil Aeronautics, Adminstration, air transport companies, private aircraft operators, and manufacturers. The Commission's reactivation is timely for the study of postwar radio aviation problems, he said. It will develop plans for the improvement of aeronautical radio equipment and services through utilization of advances made during the war period.

Three special committees have been appointed as follows: Airborne Radio Communication and Navigation—under the chairmanship of Col. D. C. Doubleday, Army Air Forces Office of Air Communications. Ground Radio Communication and Navigation—under the chairmanship Comdr. D. S. Little, Bureau of Aeronautics, Navy Dept. Test Procedures and Standards—under the chairmanship of L. M. Sherer, CAA.

The following membership of the Executive Committee was agreed upon: Dr. J. H. Dellinger, National Bureau of Standards, chairman; L. M. Sherer, CAA, secretary; Lieut. Cmdr. H. E. Allen, Bureau of Aeronautics, Navy Dept., Washington, (Alternate to Cmdr. D. S. Little); Maj. T. S. Banes, AAF, Washington, (Alternate to Col. R. L. Schoenlein); D. L. Behncke, Air Line Pilots Assoc., Chicago, Capt. G. H. DeBaun, Navy Dept., Washington; John M. Dickerman, Washington; (Alternate to Behncke); Col. D. C. Doubleday, AAF, Washington; Col. John J. Downing, OIC Aircraft Radio Branch, Research and Development Division, U. S. Signal Corps, Washington; Cmdr. C. L. Harding, Navy Dept., Washington, (Alternate to Capt. G. H. DeBaun); E. K. Jett, Federal Communications Commission, Washington; Maj. C. S. Kleinau, Aircraft Radio Branch, Washington, (Alternate to Col. Downing); W. H. Krebs, FCC, Washington, (Alternate to Jett); Cmdr. D. S. Little, Bureau of Aeronautics, Washington; H. B. Otterman, Telecommunications Div., State Dept., Washington; D. W. Rentzel, Aeronautical Radio, Inc., Washington; Col. R. L. Schoenlein, AAF, Chief of the Radio and Navigational Aids Branch, Washington; CAA Collaborator, C. I. Stanton, Administrator, CAA.

The Commission pointed out that use of very-high-frequency and ultra-high frequency radio equipment will find a wide application in postwar civil aviation and it is expected that secrecy requirements will be relaxed on certain points from time to time so that the technical aspects of these systems may be made available to the interested agencies for general study and consideration.

EVANS SKY PRODUCTS

"Hit The Gong"

WITH THE THRONG AT THE U.S. ARMY AIR SHOW

Evans Skyloader tie-down equipment saves vital weight and space.

Air Show visitors take keen interest in Evans Sky Products exhibit.

Evans Molded Plywood products used in vital aircraft assemblies.

Invasion news was on the air! Our paratroopers landing behind the German lines! Aerial ambulances removing the wounded to base hospitals! Motor trucks, jeeps and other matériel landed at, and beyond, the battle lines by giant air transports! All added to the enthusiasm of the thousands who visited the Evans Sky Products Exhibit at the Army Air Show in Detroit. We are proud that Evans Sky Products are making a major contribution to the transportation of men and cargo to and from our battle lines all over the world.

Write for

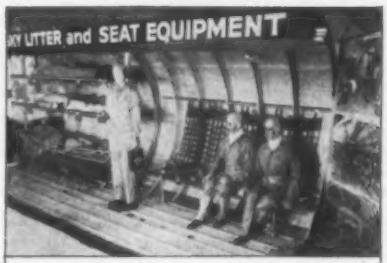
"THE EAGLE SOARS"

an interesting booklet which describes and illustrates the complete line of Evans Sky Products.

SKY PRODUCTS DIVISION

EVANS PRODUCTS COMPANY

DETROIT 27, MICH.



Evans Sky Litter and Seat Equipment flies over world battlefields.

Air ambulances speed the wounded from battlefields to base hospitals.

Evans engine mount in the Navy's Corsair is "harness for a hurricane."

Globe to Resume Making Swifts; Improved Models to be Offered

GLOBE AIRCRAFT Corp., Fort Worth, will resume production of its two-place side-by-side lightplane, called the Swift, when peacetime production is permitted. The company had just begun production on the Swift when war came.

Changes in the prewar model will be made, however. A bullet-type cowling will replace the prewar cowling, the fuselage will be lengthened, and metal control surfaces, stabilizer and fin will replace the fabric-covered parts.

Two models will be offered, one with a 75 h.p. Continental which can be souped up to 80 h.p. with 130 mile per hour cruising speed and selling for about $2500, and a model powered with a 100 h.p. Lycoming with a cruising speed of 140 miles per hour. Both types will be built along conventional lines.

Globe completed its contract for 600 twin-engined AT-10 training planes for the Army July 29, and is now engaged in subcontracts for the Curtiss C-46 and other work which is keeping the plant facilities occupied to the maximum.

Swifts Will Be Manufactured Again—The Globe Aircraft Corp., Fort Worth, will resume making its lightplane, the Swift, after the war. The pre-war model, shown here, will be given a bullet-type cowling and the fuselage will be lengthened, and metal control surfaces, stabilizer and fin will replace the fabric-covered parts.

Air Express During June Up 10 Per Cent Over '43

A total of 35,855 air-rail shipments were handled by the Air Express Division, Railway Express Agency, during June, REA reports. The combined air-rail service for the month showed an increase of 10.7 per cent over June, 1943.

Air-rail shipments for the first six months of 1944 have amounted to 216,319, compared with 190,280 during the first half of 1943, an increase of 13.6 per cent. Gross revenue of the combination traffic, which either originates at or is destined to an off-airline point and must move part way by rail, was 6.3 per cent higher than in the similar period last year, REA said.

Convair's Former Ft. Worth Manager Becomes Globe V. P.

(Picture on page 1)

George J. Newman, only 36 years old but with 20 years' experience in aviation as welder, machinist, test pilot, and manager of the Forth Worth Division, Consolidated Vultee Aircraft Corp., has been named vice president of Globe Aircraft Corp.

Newman was associated with Consolidated from the time it was organized in 1923 at Greenwich, R. I. He became assistant factory superintendent at San Diego at the age of 27. Under his direction, the Fort Worth Convair plant established a number of production records, turning out its first Liberator bomber more than 100 days ahead of schedule, and its first C-87 cargo transport more than a month in advance. Newman flew the first bomber produced at the Fort Worth plant. In February, 1941, he flew the first British-bound B-24 in what was then the record time of 9 hours, 57 minutes from San Diego to New York.

For his outstanding achievements as a young executive, and for leadership and community service, Newman was honored by the United States Junior Chamber of Commerce in 1942 as one of the 10 outstanding young men of the nation.

AATMO Explained

A little-known wartime bureau is the Alaskan Air Transport Meteorolgy Office, set up by United Air Lines when the company was called upon by the Air Transport Command to fly a regular scheduled run over one of Alaska's most difficult routes. The bureau was created by Howard Hoffman, chief of United's weather bureau at Portland, in collaboration with the U. S. Weather Bureau. United claims that its record of 1,800 scheduled trips with no serious injury, and completion of approximately 98 per cent of the trips planned was made possible through the efforts of AATMO.

Twin-Rotor XR-1 Helicopter Hovering—This new three-blade two-rotor helicopter, manufactured by the Platt-Le Page Aircraft Co., of Eddystone, Pa., is shown 'sitting' in the air low over Wright Field. It is undergoing tests by the Army Air Forces Materiel Command.

Ryan designs and manufactures manifolds, turbo-supercharger installations, heat transfer units for carburetion, cabin heating and wing anti-icing, flame dampening, and other specialized exhaust system applications.

----, IN THE DESIGN STAGE

means lower weight, better performance

To plan the exhaust manifold system when the original design for the airplane is being made saves costly engineering time, brings reduction in weight, and results in better performance. In a typical instance a Ryan manifold design saved forty-eight pounds in the weight of a military transport plane.

By planning with Ryan during the design stage, the type of manifold system and installation best suited to your specific requirements can be readily ascertained.

Whether planning to use Ryan ball and socket type or slip-joint type manifolds, let Ryan work with you in the *design* stage. You will obtain a superior product and maximum performance, and, in wartime, *lower weight;* in peacetime, *bigger payload.*

RYAN

RELY ON RYAN TO BUILD WELL 1922-1944

Ryan Aeronautical Company, San Diego — Member, Aircraft War Production Council, Inc.
Eastern Office — 420 Lexington Avenue — New York 17, New York

DESIGNERS AND BUILDERS OF COMBATANT TYPE AIRPLANES AND EXHAUST MANIFOLD SYSTEMS

California Designer, 19, Receives Experimental Helicopter License

Hiller Rotor Craft Goes Through Tests At Coast Stadium

A 19-YEAR-OLD designer and builder of a helicopter, Stanley Hiller, Jr. of Berkeley, Cal., has just received a Civil Aeronautics Administration experimental license for his craft, No. NX 30033. It is the first ever given for a helicopter in California.

Herbert Toomey, chief of flight engineering, CAA, Sixth Region, inspected the machine during the fortnight. He plans to fly the helicopter when application is made for a commercial license.

Army and Navy Observe

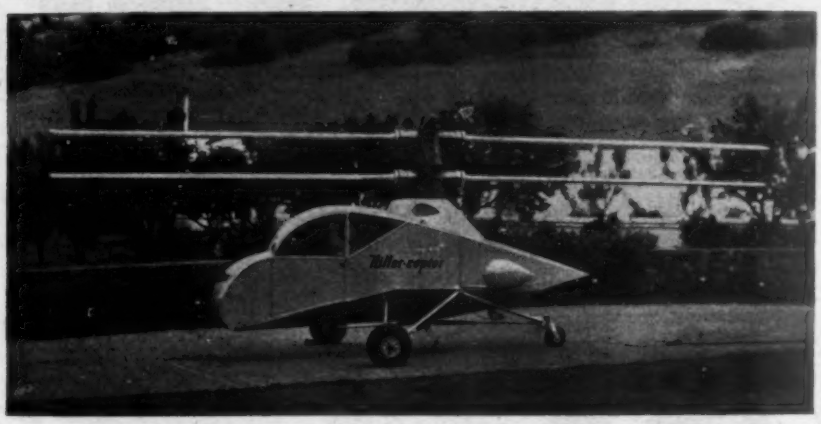
Both Army and Navy officers have watched flight demonstrations of the Hiller helicopter since May. Secrecy which surrounded the flight tests of the craft has been lifted somewhat, but future development and production plans still are under wraps. A public demonstration in the stadium of the University of California, where the tests were made, is scheduled within the next few weeks.

Hiller says that radical developments in the helicopter call for further experimentation and many refinements are yet to come when and if his machine is put into commercial production. Financing will come from the diecasting firm of Hiller Industries, with which young Hiller and his father are associated.

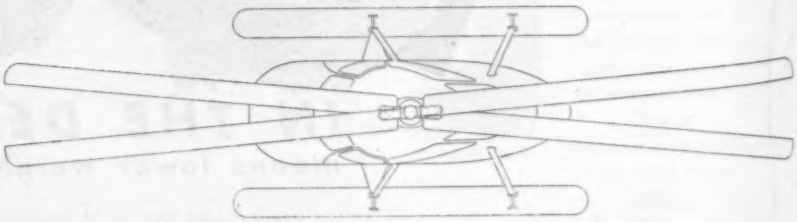
Materials for the prototype were obtained through a special Government laboratory order. The experimental model is a single place machine and carries one and a half hours gasoline supply. The production model is expected to have a 450-mile range.

The helicopter has a 12-foot tubular steel and fabric fuselage and carries a 90 hp Franklin engine. It has contra-rotating two-blade rotors of 25 ft. diameter. It is said to have developed forward speeds of 100 miles per hour and 75 to 80 miles per hour cruising speed.

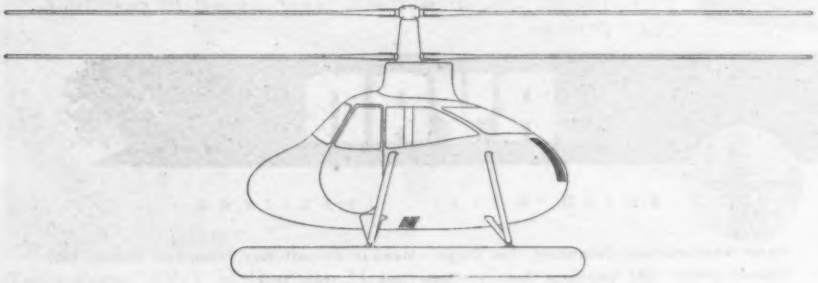
Young Hiller left the University of California after one year to devote his full time to the helicopter. He was producing gasoline model automobiles on a production line basis in his backyard in 1939-40. He invented a diecasting machine with his father to enter that business. The firm now holds contracts with several aircraft companies for diecastings. Since last year he has devoted his entire time to work on the helicopter which he started three years ago.

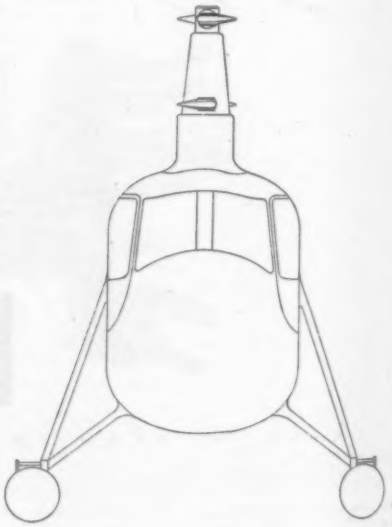


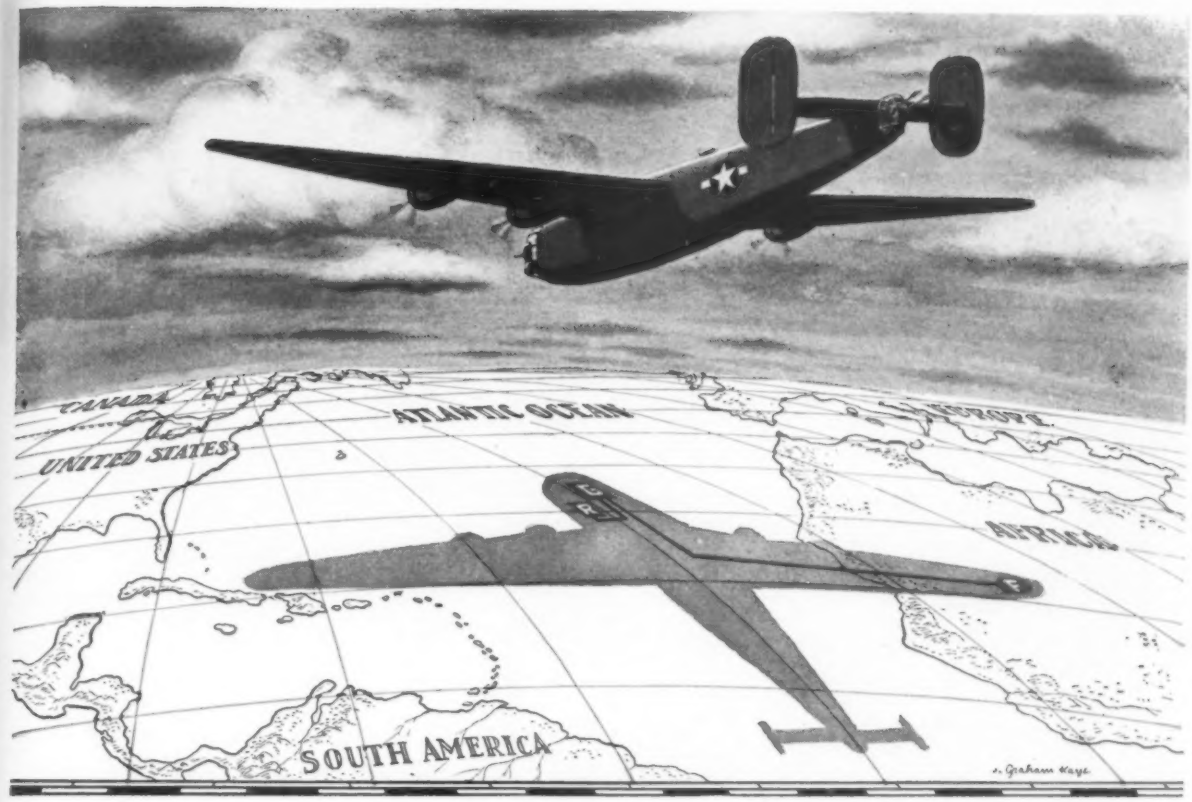
In the Air— Or being towed along the highway, the 'Hiller-copter' is a going helicopter. Designed and built by Stanley Hiller, 19, of Berkeley, Cal., the craft already has been issued a CAA experimental license. In the picture at left it is being towed along a narrow roadway to its testing grounds in the University of California stadium. In the photo above, it is in the air and doing well, with its young inventor at the controls.



Bendix Helicopter— This craft will be manufactured after the war by the newly formed Bendix Helicopter, Inc. At right—front view; above—looking down on the craft; below—side view. Bendix has been following the engineering of rotor craft for 25 years.



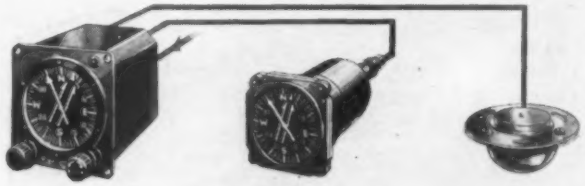




Sperry Gyrosyn Compass

The Directional Gyro with Magnetic "Sense"

See diagram on shadow of airplane above.



G — **GYROSYN COMPASS** — installed on pilot's instrument panel or at navigator's station.

R — **REPEATER**—for remote indication. Up to six may be used.

F — **FLUX VALVE**—mounted in wing tip. Weighs 20 ounces.

Accurate! Reliable! Light Weight! Low Maintenance!

THE Sperry GYROSYN Compass is a directional gyro *synchronized* with the earth's magnetic field.

It combines the functions of both a Directional Gyro and a Magnetic Compass... deadbeat indication, accurate magnetic headings . . . without northerly turning error or resetting.

The GYROSYN Compass is an electrically driven directional gyro precisely controlled by a Flux Valve to indicate magnetic heading directly or through Repeaters.

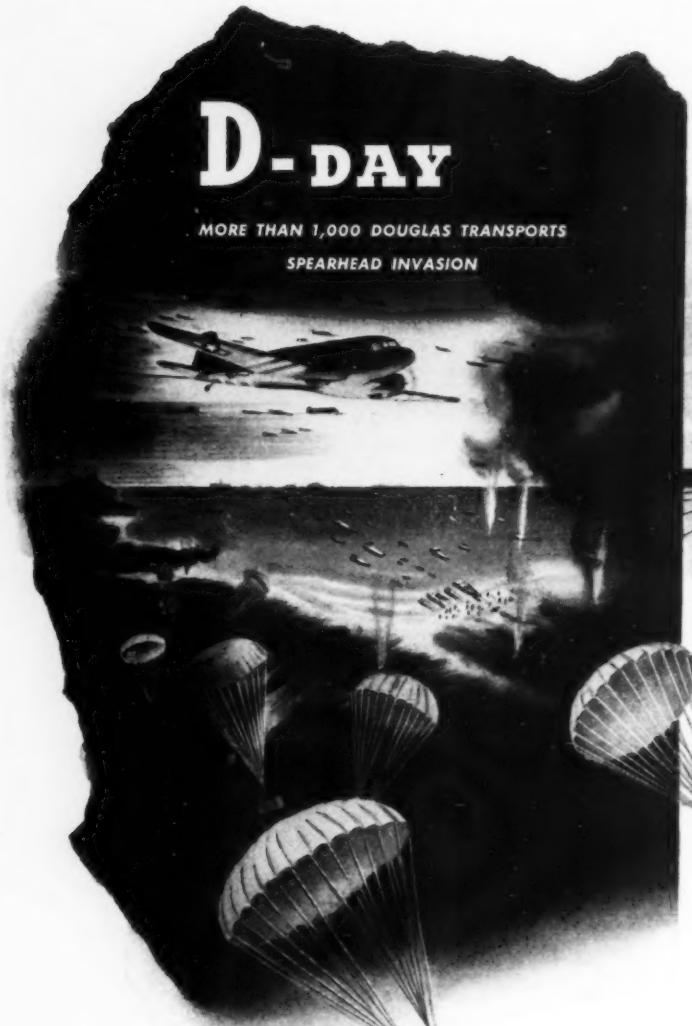
The Flux Valve is a device for detecting the direction of the earth's magnetic field. Its design provides light weight, hermetic sealing, and small size for rigid mounting in the wing tip. It has no rotating parts.

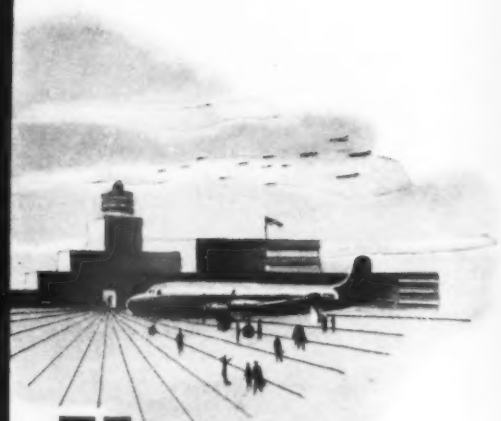
The GYROSYN Compass weighs only 10 pounds including one Repeater. Provision is made for additional repeaters and for furnishing azimuth stabilization required by any other equipment.

Sperry Gyroscope Company INC.

GREAT NECK, NEW YORK • DIVISION OF THE SPERRY CORPORATION

GYROSCOPICS • ELECTRONICS • AUTOMATIC COMPUTATION • SERVO-MECHANISMS





V-DAY

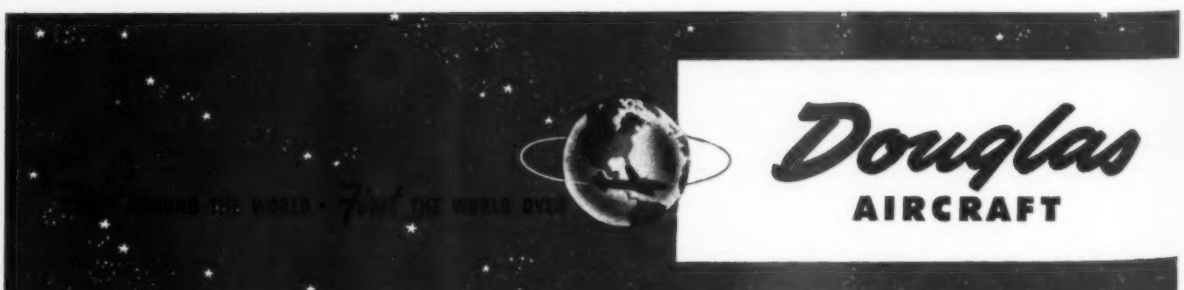
THOUSANDS OF DOUGLAS TRANSPORTS WILL SPEARHEAD PEACETIME PROGRESS

Unarmed and unarmored, more than 1,000 Douglas Skytrains* transported 24,000 skytroops to spearhead the invasion.

In this greatest mass movement by air in history, 98% of these DC-3s at war completed their missions SAFELY!

Come V-Day and over a billion miles of Douglas dependability in wartime will have perfected air travel for you.

** More than three times the number of planes in use today on domestic airlines.*



DOUGLAS EQUIPPED AIRLINES: American Airlines — Hawaiian Airlines Ltd. — Braniff Airways — Chicago & Southern Air Lines — Colonial Airlines — Delta Air Lines — Eastern Air Lines — Western Air Lines — Northeast Airlines — Northwest Airlines — Pan American Airways — Pennsylvania-Central Airlines — TWA — United Air Lines — China National Airways — Pan American-Grace Airways — Avianca (Aerovias Nacionales de Colombia) — Cia. Mexicana de Aviacion — Panair Do Brazil — Cia. Nacional Cubana de Aviacion, S. A. — Uraba, Medellin and Central Airways — Cruzeiro do Sul (Brazil) — Primeas Lineas Uruguayas de Navegacion Aerea, S. A. — Aerovias de Guatemala, S. A. — Canadian Pacific Airlines — Australian National Airlines — Royal Dutch Airlines (K.L.M.) — Royal Netherlands Indies Airways (K.N.I.L.M.) — Sabena (Belgian Congo) — Swissair (Switzerland) — A.B. Aerotransport (Sweden) — Indian National Airways — L. A. P. E. (Spain) — Aer Lingus (Ireland) — American Airlines of Mexico — British Overseas Airways (BOAC) (England).

Downtown Los Angeles Airport Urged as Elevated Flight Strip

'MacDonald Freeway' Planned Above Road Over Industrial Area

A DOWNTOWN AIRPORT for Los Angeles is a "must" in the opinion of many aviation planners. One solution to the problem, now receiving attention in industry circles, is the MacDonald Freeway proposal, which would incorporate an elevated flight strip in the city and county planning for express freeways.

With an estimated $100,000,000 earmarked for freeway development, a portion of which will include elevated highways over congested areas of the city, the MacDonald plan calls for double-deck construction at a strategic location in the area east of Main St. and south of First St., which is an industrial zone and scant minutes from the city's financial and business centers.

MacDonald

Result of a year's intensive study by 29-year-old Ensign Robert A. MacDonald, formerly of the Farmers and Merchants National Bank, the detailed prospectus has been carried out in consultation with Civil Aeronautics Authority airport experts, city and county planning commissioners and engineers, the U. S. Weather Bureau and various civic groups interested in revitalizing the old industrial section of the city.

The elevated strip, 45 ft. above the ground, is directed into the prevailing wind. It calls for dimensions of 500 ft. x 10,000 ft., capable of handling commercial airliners of wing spread under 150 feet and gross weight under 100,000 pounds. Use of the downtown facility would be exclusively for passenger, mail and express flights. Private flyers and cargo planes would be assigned to other fields which, experts believe, must be developed for a comprehensive air system covering the city and county.

Designed as a rapid loading terminal, there would be no hangars or servicing facilities with the exception of fueling. Following the principle of railroad roundhousing, the Los Angeles Municipal Airport at Inglewood would be the base of operations for maintenance and freight-loading.

By the same principle, only domestic flights would be accommodated at the downtown terminal. Trans-Pacific schedules, contemplated with heavier equipment than the Constellation or Douglas DC-4 in years to come, would use the city's major facility.

A loading area, 607,500 sq. ft., capable of handling nine planes simultaneously, would be adjacent to the flight strip at a junction which gives 3,000 ft. landing area and 7,000 ft. take-off, thus permitting continuous flow of traffic.

Terminal Provided

Off the loading area, there would be a terminal building with provision for passenger waiting rooms, restaurant and concession space. Control tower facilities and airline offices are planned on the fourth level, while on the second level, or freeway deck, would be the entrances for passengers, baggage and express. These, in turn, would be moved to the flight deck by conveyors. The ground floor, or street level, would include auto park space and building maintenance facilities such as transformers, air conditioning and heating units.

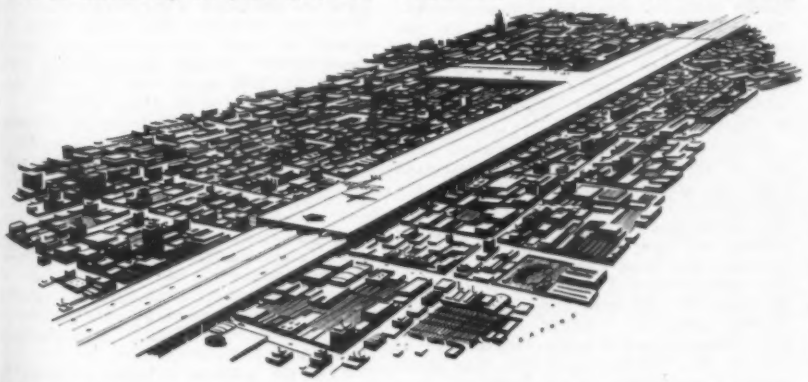
Of the surveys carried out by MacDonald, including property, topographic, obstruction and drainage, the meteorology report for the area shows that the wind is under 10 miles per hour 90 per cent of the time and under 15 miles per hour 98 per cent of the time, based on an hourly survey.

Estimated costs for construction are: Flight strip (10,000 x 500 ft., elevated 22½ ft. above freeway) involves no costs for land acquisition or property removal which is provided by highway funds. Construction of the flight deck strip is based on standard construction charges of $5 per sq. ft., totaling $25,000,000. The loading area and terminal building is estimated as: Land acquisition, $2,000,000; facility construction, $4,000,000. Lighting, heating, communications and airconditioning represent $1,000,000. All utility services are present in the area.

MacDonald points out that the plan is applicable to other metropolitan areas where freeway programs are in the embryonic stage, still allowing coordination of development within an area possessing suitable wind and topographic conditions.

While the freeway plan is only in the proposal stage, many aviation leaders, who fear that Los Angeles is lagging in airport development, believe that whether the idea comes under conisderation by civic authorities, it is serving a valuable function in stimulating planning for downtown facilities.

The aviation committee of the Los Angeles Junior Chamber of Commerce is studying in detail the prospectus as drawn up by MacDonald.



Flight Strip Above Elevated Highway—This artist's conception shows how a runway would be built in double-deck fashion above an elevated express roadway through Downtown Los Angeles, according to the MacDonald Freeway proposal. The Tower (upper right) represents City Hall. A Constellation is taking off while other planes are loading at terminal stations. In the foreground trucks and autos are traveling along the express highway.

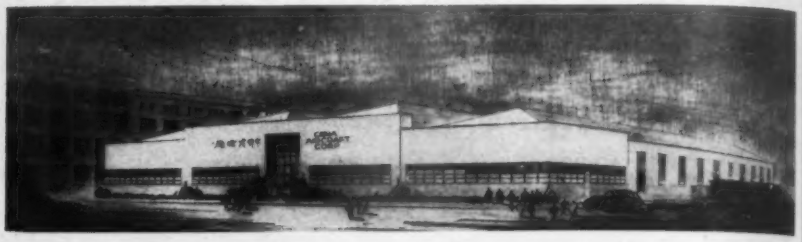
'Salt and Pepper Queen'

A woman employe in American Airlines' food service department has saved the airline hundreds of dollars through devising a method for cleaning the corroded interiors of several thousand metal salt and pepper shakers, taken out of service because they could not be kept clean. Even American's materials testing laboratory failed to develop a method for cleaning the shakers—but not Anna Smith. She tapped the top of each tiny seller gently with a craftsman's hammer, unscrewed it, and fitted each of the shakers over the end of a lathe. Then, she pressed steel wool into the open end. At the end of a few seconds, each shaker was as shiny on the inside as it was the day it came off the assembly line. Miss Smith has been rewarded with 10 per cent of what the airline figures it will save in one year through her invention. And she has been nicknamed "Salt and Pepper Queen."

Port of N. Y. Issues Map

Predicting that the postwar pattern of postwar air transportation will give the Port of New York a predominant position as an air traffic center, Frank C. Ferguson, chairman of the Port of New York authority, has published an "azimuthal equidistant projection" air map with all measurements centering on the New York-New Jersey area. Prepared by the American Geographical Society, the map shows most of North America, all of Central and South America, the Caribbean Islands, most of Europe and Western Africa. Referring to the proposal of the CAB for 20 postwar international air routes, Ferguson pointed out that seven of them have New York as a terminal. Two more which start at Cristobal and Balboa are extensions into South America of routes which have New York as their terminal in the U. S.

All-Chinese Firm Makes Plane Parts in U.S.



These young Chinese workers learned aircraft production at Douglas' Southern California plants before going to San Francisco to begin working on A-26 sub-assemblies at their own factory. An architect's drawing of China Aircraft Corp.'s new plant, completed this month, is shown at upper right.

Dream of Young Engineer for his People To Aid War Comes True Within Year

A YEAR AGO China Aircraft Corp. was only the dream of a young Chinese aeronautical engineer who wanted to see his people directly producing war materials and training for the day of China's industrialization. But today the corporation is a reality, already producing bomber sub-assemblies.

More than 3,000 Chinese are part of the dream, either financially or physically. Capitalized for $250,000, with a majority of the stock owned by Chinese nationals, the company this month opened its $500,000 Defense Plant Corp. factory in San Francisco to produce sub-assemblies for the A-26 attack bomber under contract to Douglas Aircraft Co.

Nearly 300 Chinese workers, both nationals and American-born, trained in aircraft production at Douglas' Southern California plants since last October, are set to turn out their first unit before the end of September. By the end of two years, the company program is designed to turn out complete planes. The 80,000 sq. ft. plant has capacity for 3,000 workers.

Dr. Seng-chiu Hu, who at 25 holds a Doctor of Science in Aeronautical Engineering degree from the Massachusetts Institute of Technology, is founder, director, vice president and chief engineer of the company.

He approached Madame Chiang Kai-shek when she visited Los Angeles last March with his idea and plan for founding a Chinese aircraft company in this country, a company which would make use of Chinese manpower in the war effort and at the same time furnish the nucleus for a postwar aviation industry in China after the war.

China's First Lady immediately approved the proposal. Shortly afterward came the official commendation from the Generalissimo in China. The dream, before it became a reality, was a saga in cutting red tape; 100,000 miles of shuttling between the West Coast and Washington for conferences and clearances on the plan between Dr. Hu and the following different agencies: Army, Navy, State and Treasury Departments, Department of Justice, War Production Board, War Manpower Commission, Alien Property Custodian, Selective Service, Defense Plant Corp., Chinese Embassy, and Washington office of the Chinese Air Forces.

In describing the development of China Aircraft to *American Aviation*, Dr. Hu pointed out, "This development which combines the use of Chinese manpower and United States technical aid in establishing industries for China is not restricted to aircraft alone. Such a program could well be applied to auto, locomotive and many other heavy manufacturing techniques for our country.

"For the postwar aviation program, the plant in this country will remain with branch factories established in China, manned by the trained nucleus from here. There is a great future. Without attempting to produce our own designs, we will be able to build many types under license from American companies. Especially, do

25-Year-Old Founder Has Won Long List of Honors

Only 25 years old, Dr. Seng-chiu Hu (Dr. S. C. Hu), founder of China Aircraft Co., has acquired a list of honors and affiliations that few Americans of his age can equal. With a B.S. degree in mechanical engineering from Chiao-Tung University, Shanghai, he received his M.S degree in automotive engineering from Rensselaer Polytechnic Institute, Troy N. Y., in 1940. Under an Alfred P. Sloan fellowship in 15 months he earned his doctor of science in aeronautical engineering degree from Massachusetts Institute of Technology in 1942 and was a visiting Scientific Research Fellow at California Institute of Technology, 1942-43.

Dr. Hu

Combining education with practical experience, Dr. Hu worked as an electric engineer for General Electric Co., Schenectady, N. Y., 1940; as a machine-shop engineer for Berger Manufacturing Co., Bridgeport, Conn., 1942; as an aeronautical engineer, Vought-Sikorsky Airplane Division, United Aircraft Corp., 1942; aeronautical engineer, Zap Aeronautical Co., West Los Angeles, 1942; chief stress engineer in charge of structural and weight department, Aerojet Engineering Corp., Pasadena, 1942 until start of China Aircraft development in April, 1943.

A member of the Institute of Aeronautical Sciences, he also was the winner of the First Annual Salisbury Prize for highest scholarship in the Graduate School of Aeronautical Engineering at M. I. T.

TAXIING TO THE "TANG" BY KINGFISHER

THEY were shooting it out over Truk on April 29th and 30th. As hundreds of our planes swarmed over the Jap island fortress in a devastating strike, the Nips were tossing up every ounce of anti-aircraft fire they could muster. The tropic skies were torn by tracer bullets and flak. Some of our aircraft were caught in the deadly fire. Yet from the fallen planes not a single man was lost!

22 of our aviators were rescued by the U.S. Submarine *Tang*. She was called in from her position on patrol to skirt the dangerous shoals and reefs, often under gunfire. Once she paused to give chase to an enemy sub. But hour after hour she cruised back and forth along the entire southern range of the island group to rescue our airmen who had been shot out of the skies. Her largest single rescue was performed with the aid of a battleship's catapult seaplane which had gathered up a company of seven airmen who would otherwise have drifted out to sea, or would have fallen into the hands of the Japs.

Lieut. Comdr. Richard Hetherington O'Kane, commanding the U.S. Submarine *Tang*, was called to retriever duty again in the direction of Ollan Island. American fighter planes, circling overhead, directed him to the liferafts as they spotted them.

Then Commander O'Kane picked up a radio message from Lt. (j.g.) John A. Burns of Wynnwood, Pa., piloting his observation float plane 15 miles distant from the sub, where he had sighted some liferafts holding our airmen.

Lt. Burns, with his crewman Radioman Aubrey James Gill, started to taxi back and forth in his Kingfisher which, as Navy men know, is Edo Float-equipped. On some of his trips to the sub, Lt. Burns had fighter cover . . . more often, none at all.

Along about noon, three rafts bearing seven men were sighted on the ocean off the eastern reef of Truk Atoll. The tide wind was carrying them toward the beach—and capture. Burns was down there with them. He must have known he couldn't get off the water and he deserved great credit. With American nerve and resourcefulness, Burns loaded 3 men on each wing and perched the seventh on the edge of the cockpit . . . gunned up his motor and literally taxied on the rough surface of the sea back to the submarine.

They struck a terrific cross wind. The little Kingfisher was badly battered. But Lt. Burns radioed the sub he had plenty of gasoline and "we are all right."

It was 5:30 p.m. before Lt. Burns had taxied his seven passengers to the sub. It had taken six courageous hours to make the trip.

Now a Kingfisher plane is so small it's the butt of many jokes in the Navy . . ."It can carry but three men . . . and then only in a pinch." But you can bet there are seven American fliers—the crews of 2 torpedo planes, 1 dive bomber and 2 fighters—that have nothing but praise for the tiny craft that saved their lives by bouncing back to the *Tang* on her Edo Floats. Edo Aircraft Corporation, 401 2nd St., College Point, N.Y.

EDO FLOAT GEAR

SERVES THE UNITED NATIONS

we need transports to overcome the vast handicap of huge territories, inadequately served by highway and railway."

Chronologically, the development, as related by Dr. Hu, shows that from March until August of 1943 he succeeded in obtaining "wholehearted support from Donald Douglas and General H. H. Arnold"; from the Joint WPB-Army-Navy Aircraft Production Board, and from his own people. On August 11, it was incorporated in California. Chinese people in two weeks had subscribed the necessary starting fund.

During September of last year an employment campaign was carried out in both Los Angeles and San Francisco, and an initial 200 trainees were hired. As word passed around, applications poured in from all over the world. By October the trainees were housed in a dormitory at Western Ave. and Venice Blvd. in Los Angeles. There they lived under a student government system while working at the Long Beach and Santa Monica Douglas plants.

By December the company's preliminary plant layout and D. P. C. application was ready. A month later Western Procurement District, A. A. F. Materiel Command, approved the DPC application. In February 1944 came the nod of approval for the plant site in San Francisco area, where half of the nation's Chinese and Chinese-Americans live. This nod was a joint one from State, War, Navy Departments, WPB and WMC.

Also in the same month came exemption to the "1926 Army Air Corps Act" which enabled China Aircraft, an alien organization, to act as a defense manufacturer for the U. S. government. Secretary of War gave this exemption. At the same time the U. S. Army Provost Marshall gave "Alien Clearance" permitting Chinese nationals to work in aircraft production.

Then came the DPC loan covering all expenditures for building, machinery and equipment. By March a site was located at 122 Fifteenth St. and offices were established at 615 Commercial St., San Francisco, pending completion of the factory. WPB approved construction which got under way in May.

The contract was signed with Douglas to produce A-26 sub-assemblies in June; the factory was finished early this month and production is under way.

From the Generalissimo came a cable of congratulations and he is forwarding in Chinese characters "China Aircraft Corporation" for the company sign which will be placed over the entrance to the plant.

The organization comprises Chinese leaders of China Town who serve on the board and in the presidency; the operations staff of young Chinese technicians, engineers and business men; the working force of trained workers who will act as instructors as plant capacity develops.

Shuck Ho, president of the San Francisco Branch, Chinese Association for Promotion of Aviation, is chairman of the board; B. S. Fong, chairman of China Relief Association, director of Chinese Chamber of Commerce and member of the People's Political Council, Republic of China, is president. Y. C. Yu is secretary.

The operating force under Dr. Hu includes Y. K. Mao, supervisor of manufacturing; T. C. Hsuing, administrative supervisor; Y. C. Chow, comptroller; C. S. Li, purchasing manager. Herbert Chan, employment manager.

California Bill Would Give Rail Board Control of Air

Hodge-Podge Rules By States Seen as Threat to Progress

A PROPOSED California air commerce act, vesting in the State Railroad Commission complete control over intrastate air transport, has aviation circles wondering if it is a step toward a hodge-podge of conflicting state laws to hamstring airline development, such as has emerged in the trucking industry.

The bill, which is scheduled for introduction in the Legislature in January, has caused aviation leaders to study what should be done to either encourage uniform state control or to fight any form of such controls in favor of the Civil Aeronautics Board becoming involved in intrastate activities.

Under the terms of the proposed act, the Railroad Commission of California would have power, *with or without hearing*, to issue certificates to air common carriers for operation between points within the state, whether such carriage is wholly by aircraft or partly by aircraft and partly by other means of transportation.

Certificates could be transferred only upon authorization by the Commission. No air carrier could discontinue all or any portion of its operations without first getting from the Commission an order authorizing it to do so. The Commission could at any time revoke, alter or amend any certificate.

No air carrier could increase any rate or fare except by permission of the Commission. Further, the Commission would have the power "to make orders and to prescribe rules and regulations affecting the operations of air common carriers between places within the state."

The section of the bill on interstate commerce says: "Neither this act nor any provision thereof shall apply to or be construed as a regulation of commerce with foreign nations or among the several states, except in so far as the same may be permitted under the provisions of the constitution and the Acts of Congress of the United States."

Hundreds of laws enacted by the individual states now restrict and hamper the over-the-road movement of goods into or from other states, and aviation circles are growing alert against similar barriers cropping up to hamper through-the-air movement of passengers and goods.

Canada to Pay $76,800,000 For U. S.-Built Airports

The State Department has revealed that Canada will pay the United States $76,800,000 for American-built air fields in the Dominion. Canada will not repay the United States, however, for an additional $13,800,000 spent for temporary construction, the Department announced.

Five of the largest bases are at The Pas and Churchill, Manitoba; Southampton Island in northern Hudson Bay; Frobisher Bay on the east coast of Baffin Island; and Port Chimo on the south shore of Hudson Strait. The American-developed fields connect with the Canadian bases at Goose Bay, Labrador, and Mingan on the north shore of the Gulf of St. Lawrence.

Alabama Meeting Set

Airport owners, managers and executives of the southeastern states will attend an airport management conference at Alabama Polytechnic Institute Aug. 29-31. Prof. R. G. Pitts, director of aeronautics at the Auburn, Ala., school, has announced the conference. Attendance will be free.

P-63 Kingcobra— This is the new version of the Bell Airacobra. Heavier and more powerful than the P-39, it was developed by the AAF Materiel Command to add punch to the 400 mph fleet. It has a four-foot increase in wing span.

FIVE GREAT Pan American gateways—Miami, New Orleans, Brownsville, Nuevo Laredo and Los Angeles—are available to Clipper passengers . . . PAA routes connect every principal city in Latin America.

BY PIONEERING air service to 68 foreign lands, Pan American has given the U.S.A. the world's greatest air transport system. Solid lines—routes available to civilians. Dotted lines—routes on war duty, not available to civilians.

"Can I fly to South America now?"

YES, Pan American Clippers have seats available today on many Latin American routes . . . This includes Mexico, the West Indies, Central and South America.

EVER since Pearl Harbor, Pan American has placed its war duties ahead of everything else. But, thanks to the magnificent job now being done by the Army Air Transport Command and Navy Air Transport Service, and also to increased Pan American schedules, more seats for businessmen are becoming available aboard the Clippers of our Latin American Division.

This is particularly true of Mexico, the West Indies, Central America and the North Coast of South America.

Your local Pan American office or your own travel agent will be glad to make reservations and furnish you with schedules, rates and other up-to-date information.

If local sources *cannot* furnish the facts you need, please telephone or wire, Pan American World Airways, Airlines Terminal Building, 80 East 42nd Street, New York 17, New York. Telephone Murray Hill 6-7100.

Buying WAR BONDS is a good way to insure that post-war pleasure trip by CLIPPER

PAN AMERICAN WORLD AIRWAYS

The System of the Clippers

Chamber Moves Toward Ending Administrative Repairs Sept. 1

James Straight Made Los Angeles Manager; Termination Unit Busy

REORGANIZATION of the Aeronautical Chamber of Commerce moved rapidly toward completion last fortnight with a West Coast manager being installed in Los Angeles and a number of new working committees tackling their respective jobs in Washington as streamlining of the administrative personnel continued.

Straight

Principal remaining move was the selection of a permanent manager for the Chamber. There was no indication last week that agreement had been reached on a man for this important post and no official announcement can be expected before the end of the month, although John C. Lee, the reorganizer borrowed from the War Production Council, is scheduled to wind up his three months of administrative repair work Sept. 1.

The Western Regional Committee and Board of Governors of the Chamber is scheduled to meet in Los Angeles Aug. 17 and the Eastern Regional Committee and Board of Governors in New York Aug. 30. No announcement of the permanent manager will be made until approved at these two meetings.

Selected as manager of the Los Angeles office of the Aeronautical Chamber and the Aircraft Manufacturers Council, which will coordinate all trade organization work on the West Coast, was James L. Straight.

Straight moves over to the ACCA job from the Aircraft War Production Council where he has been director of its production division since its inception more than two years ago. He is highly rated by Chamber spokesmen for having done a competent job with the production division which led to his being put in charge of all AWPC committee work on the West Coast several months ago. Prior to joining the Council, Straight was West Coast representative of American Aviation Publications.

Coordination Speeded Up

The Los Angeles office has been opened on the seventh floor of the Hollywood Professional Bldg., 7046 Hollywood Blvd.

While the desirability of a New York office has been discussed, it has now been decided not to establish such an office, but to use the New York headquarters of Hill & Knowlton, public relations counsel for ACCA, for coordination of work in New York.

Special attention is being given to the Termination Unit of the Chamber which is endeavoring to speed up coordination between manufacturers and the service units involved in termination and inventory disposition procedures and to devise more simple and workable regulations.

Assigned on a full-time basis to this work are J. K. Boyle, of Lockheed Aircraft Corp., and J. S. Van Leer of Douglas Aircraft Co., who work in Washington, and R. D. Campbell of Curtiss-Wright Corp., who is at Wright Field, Dayton O., assisted by the Chamber staff. Charles C. Tillinghast, Jr., is counsel.

Policy is reviewed by the Contract Termination Advisory Committee composed of top-ranking company executives, in this field. Advisory committee members are:

For the West Coast—H. E. Bowman, Boeing; Charles Schorlemmer, Consolidated Vultee; Karl Grube, Douglas; James J. Norton, Lockheed; C. J. Gallant, North American; Graham Sterling, Northrop; J. C. Noakes, Ryan. *For the East Coast*—Walter A. Mogensen, Aviation Corporation; Charles L. Beard, Bell; Charles Hummel, Bendix; P. J. Lindquist, Curtiss-Wright; W. H. Schwebel, Fairchild; M. R. Schermerhorn, Martin; Arthur H. Peck, Republic; W. F. Titus, Sperry; Joseph F. McCarthy, United Aircraft; Robert E. Roefflin, Waco.

Reaction Pleasing

The Termination Unit contacts the readjustment divisions of the Army and Navy, especially Materiel Command and Bureau of Aeronautics, the Joint Contract Termination Board, and the Director of Contract Settlement, to convey to these agencies the practical industrywide effects of contract termination policies and procedures, and to assist the termination agencies in channeling industrywide information to the companies.

Recognition of the importance of disposal of surplus aircraft and plants was reflected in industry testimony given last month before the Senate War Contracts Subcommittee. The ACCA Surplus Disposal Committee is composed of E. R. Breech, Bendix president, chairman; Francis A. Callery, Consolidated Vultee; James C. Willson, Curtiss-Wright; J. Carlton Ward, Jr., Fairchild; Robert E. Gross, Lockheed; Mundy I. Peale, Republic; and R. E. Gillmor, Sperry.

ACCA noted an exceptionally favorable press and public reaction to its overall plan for meeting postwar problems and developing a healthy future for the industry as presented to the Senate Committee.

The Public Relations Working Committee is composed of: L. D. Lyman, United Aircraft, chairman; Avery McBee, Martin, vice chairman; Herbert L. Sharlock, Bendix; Harold Mansfield, Boeing; A. M. Rochlen, Douglas; and William L. Wilson, Kellett.

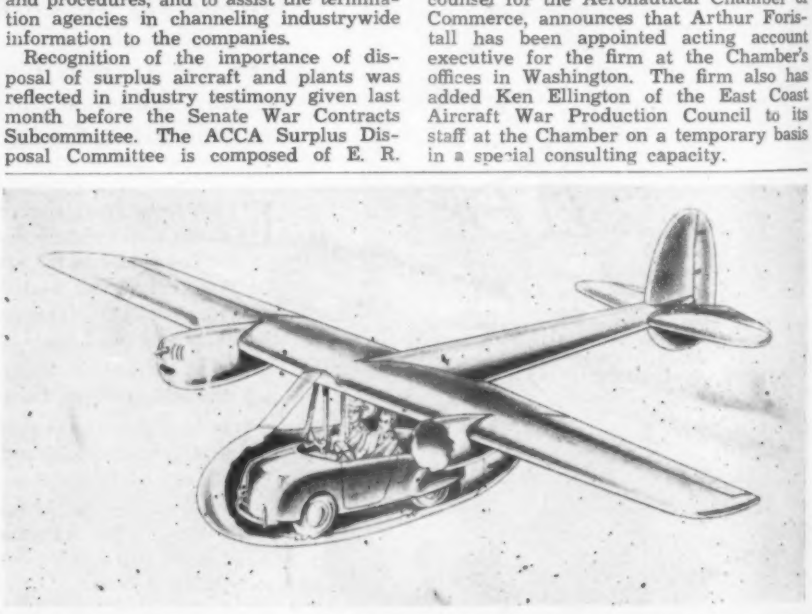
Others on the Committee:

These men form the full committee with the following: L. I. Hartmeyer, The Aviation Corporation; Stephen E. Fitzgerald, Bell; Earl A. Hoose, Jr., Consolidated Vultee; Jess Sweetser, Curtiss-Wright; Joseph E. Lowes, Jr., Fairchild; Leonard K. Schwartz, Lockheed; Leland R. Taylor, North American; Dale Armstrong, Northrop; Gordon C. Sleeper, Republic; William Wagner, Ryan; J. A. Fitz, Sperry. Hill & Knowlton are counsel.

Among ACCA personnel changes during the fortnight was the resignation of E. E. Lothrop as director of the Research and Statistics Department to join the staff of the newly formed Surplus War Aircraft Division. The Research and Statistics, Legislative, Economic Development and Information Departments of ACCA are being grouped under one Bureau of Economics for which a director will be appointed.

New Official at Aero Chamber

Hill and Knowlton, public relations counsel for the Aeronautical Chamber of Commerce, announces that Arthur Foristall has been appointed acting account executive for the firm at the Chamber's offices in Washington. The firm also has added Ken Ellington of the East Coast Aircraft War Production Council to its staff at the Chamber on a temporary basis in a special consulting capacity.



York Air Commuter— This 'flying station wagon' is designed by the York Research Corp., 101 Park Ave., New York. It would be a small four-place twin-engine high wing monoplane. Primary structure including wing, landing gear tail boom and tail surfaces would be metal. The fuselage is planned to be of molded plywood. The cabin space is so arranged that a small auto could be driven into the space. The driver of the car would be able to operate the plane from the seat of the auto. If the drive-in auto feature were not used the craft could have conventional seats or cargo space.

Coated Fiberglas* Fabrics

are solving many problems, today

Fiberglas Fabrics, due to their exceptional strength and dimensional stability, are giving new utility to *coated* cloths . . . as developed by a number of coaters and fabricators.

Made from Fiberglas Fabrics —coated on one or both sides with natural or synthetic rubber, vinyl compounds or other coating materials—these coated cloths have helped solve many wartime problems. They are, for instance, used in the fabrication of gun-bore sight screens, brilliant colored markers, sails, protective coverings such as battery covers, thermal insulation covers, oil-resistant covers, flexible connections. Experimental uses include fuel storage bags and distillate tanks.

While the characteristics of these coated cloths differ with the type of coating applied and the manner of application, all acquire some highly essential quality from the Fiberglas Fabric base. These Fiberglas Fabrics are woven from extremely fine, continuous fibers of glass . . . inorganic, chemically stable, incombustible, neither shrinking nor stretching under changes in temperature and humidity, combining great tensile strength with light weight.

Such a combination of qualities has had a strong appeal to fabricators and users of coated cloths. Almost daily some potential use of this amazing and versatile material is being suggested.

Design Engineers are invited to write

While much remains to be learned about the potentialities of coated Fiberglas cloths, coaters and fabricators now have considerable data on their manufacture and applications. Should you care to know more about these fabrics, write, describing what characteristics you desire in the finished material.

Owens-Corning Fiberglas Corporation, 1894 Nicholas Bldg., Toledo 1, Ohio.
In Canada, Fiberglas Canada, Ltd., Oshawa, Ontario.

OTHER AIRCRAFT USES OF FIBERGLAS

Made by combining certain low-pressure resins with Fiberglas—glass in the form of fine fibers—these materials provide great strength with light weight; exceptional ability to absorb shock; dimensional stability under moisture changes. These and other properties of this amazing new structural material are described in a booklet of reprints of articles which appeared recently in "Modern Plastics". Write for your copy.

Fiberglas Insulation, Type XM-PF, is a lightweight, semi-rigid bat of fine glass fibers. It is firesafe and has exceptionally low moisture pick-up, even under conditions of extreme humidity. It is available in 1 lb. and 1½ lb. densities. In aircraft construction it is used for acoustical and thermal insulating purposes.

Another type of Fiberglas thermal insulation, these fireproof blankets (known as Design No. 3) are made of Fiberglas Insulating Wool, Type N, faced with Fiberglas Cloth and stitched with glass thread. Available in 1½ lb. and 3 lb. densities, they are extensively used to insulate gasoline heater exhausts, heat exchanger ducts, other high temperature pipes, etc.

Another all-glass product—woven from Fiberglas yarns. While extensively used for insulating motors, generators and other electrical equipment, many other applications have been found for these durable, incombustible tapes in aviation —such as covering of thermal insulations on hot air ducts, ties for removable insulating pads, etc.

FIBERGLAS ..A BASIC MATERIAL

*T. M. Reg. U. S. Pat. Off.

Further Simplification of Civil Air Regulations Outlined by CAB

IN THE INTERESTS of further simplification of the regulations pertaining to flying, ownership and repair of private and commercial aircraft, the Safety Bureau of the Civil Aeronautics Board has circulated proposed revisions of Part 43 entitled, "Non-Carrier Operation Rules," throughout the industry. Comment is sought by Sept. 1.

This is the third revision of sections relating to Civil Air Regulations. The first proposed revision, Part 60, governed "Air Traffic Rules" and the second concerned "Pilot Certificates."

Jesse W. Lankford, director of the Bureau, stated that three principal objectives prompted the Board to revise these rules.

The first is to eliminate from those regulations governing the student and private pilot and the ownership and operation of non-commercial aircraft all rules which did not have as their objective the public safety; second, to so group the rules that pilots and owners can readily find the regulations which govern them and third, to so word these regulations that they are readily understandable to all concerned.

Solo Rule Eliminated

The following explanation was issued by the Bureau with reference to the proposed revision of Part 43:

(a) *Airworthiness Certificate Duration.* An airworthiness certificate will expire 12 months after its issuance or renewal. It is intended that it can be renewed either by an appropriately certificated mechanic or by an inspector of the administrator. This renewal may be made as a result of a periodic inspection by the proper class of mechanic. We are now working on the revision of Part 24, relating to mechanic certificates and privileges, which will provide for a class of mechanic authorized to renew this certificate.

(b) *Dual Controls.* It is provided that any private pilot rated for the aircraft may carry any person seated at operative dual controls, except that when performing acrobatics such person must be a pilot.

(c) *Recent Solo Flight Experience.* The present rule requiring a private or commercial pilot to be given a check flight before flying solo, if he has not made at least five take-offs and landings within the preceding six months, has been eliminated. No change is suggested with respect to the present recent flight experience requirement when carrying passengers.

(d) *Acrobatic Flight.* The present provisions of the Civil Air Regulations requiring that pay passengers must not be carried and that each occupant of the aircraft must be equipped with a certificated parachute, when performing intentional acrobatic maneuvers, have been retained in the suggested part. The desirability of retaining these restrictions has been expressed by a large majority of those who commented upon the deletion of these requirements from the suggested revision of Part 60.

As will be noted, no distinction is made in the suggested part with respect to identification marks, maintenance, required equipment, and periodic inspections, between personal aircraft and aircraft operated for hire. However, for many months we have been weighing the desirability of the establishment of a personal aircraft category distinguished by the identification mark NP and under which a privately operated aircraft would not be subject to all the restrictions and limitations applicable to commercially used aircraft identified by NC. The Board recently received from the Administrator a recommendation for an amendment to Part 18 which would permit routine maintenance, minor repairs, and minor alterations to be made by a private or commercial pilot to aircraft in an NP category. However, we feel that there is considerable justification for the extension of this privilege to such pilots even in connection with NC aircraft. Although at first consideration the establishment of an NP category would appear very desirable, when considered in the light of this latter possibility and other presently proposed changes, many of the delays and difficulties with respect to routine maintenance, inspection, and return to service after major repairs or alterations even for NC aircraft will be eliminated or so reduced as to cast doubt on the desirability of a separate category. Furthermore, contemplated changes in Part 24 will set up a class of mechanic authorized to inspect and return aircraft to service, which function is now, in many cases, restricted to an inspector of the administrator.

Since it seems necessary to retain the requirement that an aircraft not be operated unless it is maintained in a fully airworthy condition, about the principal advantages to be gained by a separate category would be the placing of complete responsibility for this maintenance of airworthiness on the owner and the elimination of the requirement for a logbook. These advantages would appear to be offset to a large extent by the benefits of regular inspections by thoroughly competent personnel and the availability of a complete operating record of the aircraft. We are particularly anxious to obtain an expression from you as to the advisability of setting up this new category.

'Show Cases'— The pilot house of the Martin PBM Mariner now is featuring single waterproof windows instead of the two-panel type formerly used. A workman at the Martin plant in Baltimore is shown installing one of the new windows.

Not for Passenger Hire

The proposed specific requirements for an NP category would be somewhat as follows:

1. *NP Aircraft.* An aircraft for which an airworthiness certificate has been issued by the administrator and which will be operated only under the following rules will display the Roman capital letters NP, followed by the registration number.

2. *Limitation.* NP aircraft must not be used to carry any passengers or property for hire. The sharing of expenses of a flight is not prohibited by this limitation.

3. *Maintenance.* NP aircraft must be maintained in an airworthy condition. Any major repair or alteration, or other change which requires a modification of the limitations set forth in the Aircraft Operations Record, must be made under the supervision of an appropriately rated mechanic or other person authorized by the administrator, and the proper change noted on such record and reported to the administrator before the aircraft is returned to service. All other maintenance and minor repair or alteration work may be performed by the pilot-owner.

4. *Logbooks.* Logbooks are not required.

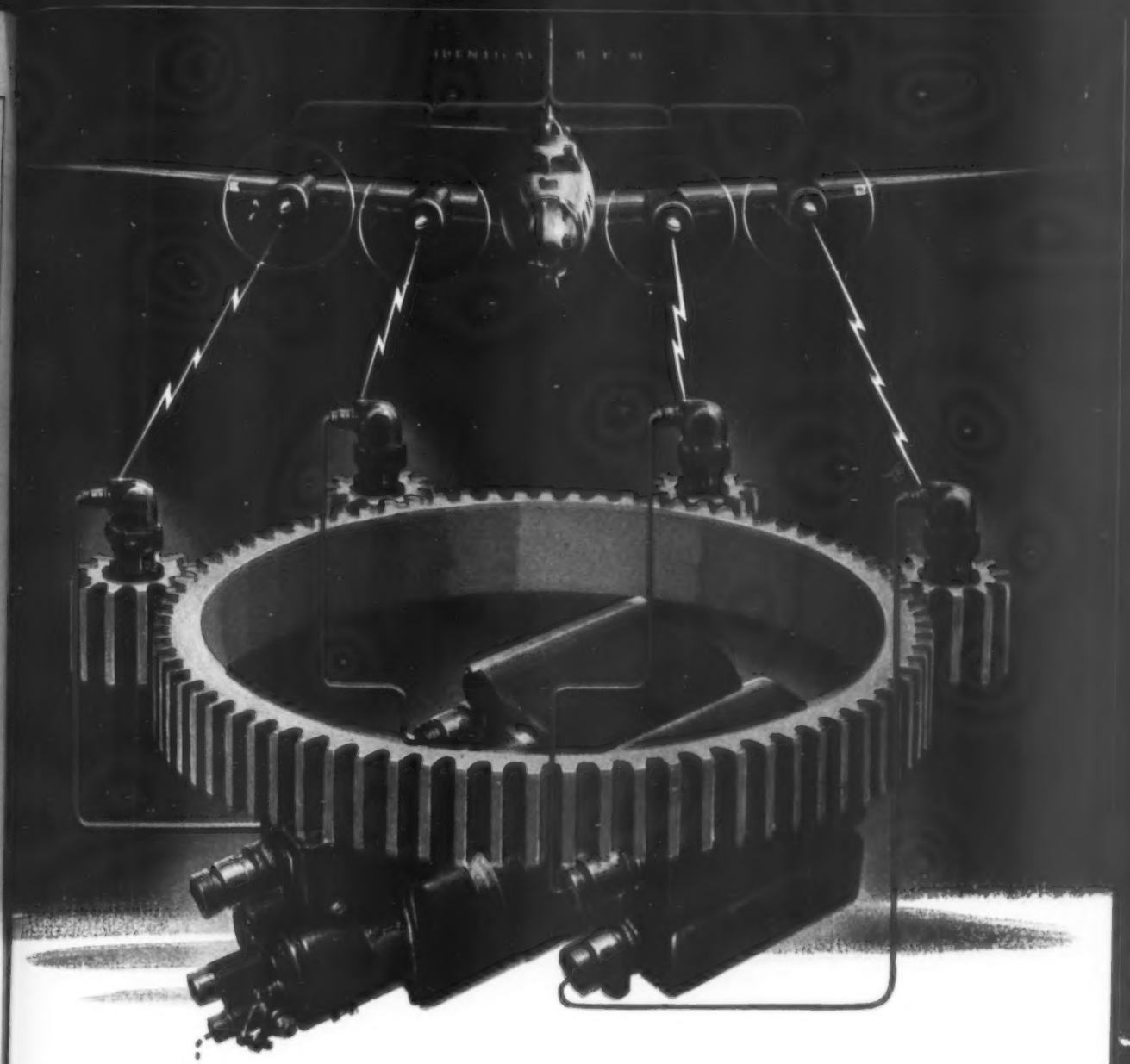
5. *Change over to NC aircraft.* An NP aircraft may be reclassified as an NC aircraft upon application to the administrator by demonstrating, by means of inspections and perhaps tests, that it fully meets the requirements for the original issuance of an NC airworthiness certificate for such aircraft."

View Midnight Sun From 16,000 Feet

During the last week in June, 28 residents of Anchorage, Alaska, took advantage of Alaska Airlines' "Midnight Sun Excursions" to Mt. McKinley. From 16,000 feet the passengers looked down past the earth's curve at the sun glowing on the northern horizon. The "midnight sun" functioned this year under war time, putting on its best show at 1 a.m.

ATS Council Meets Aug. 18

The Eastern Information Council of the Aeronautical Training Society is scheduled to meet at Parks Air College, East St. Louis, August 18 and 19, to discuss questions of fixed base and feeder line operation and future aviation flight training. About 27 of the society's 64 schools will have completed cadet training quotas by the time of the meeting and transition problems will be considered. Members of the council voted to meet on the Parks campus because of extensive research started in 1942 by Oliver L. Parks and his organization into plane sales and the need for more airports and airparks.



Four engines electrically "geared" as one

For greater passenger and crew comfort
during the longer flights of modern multi-engine airplanes, the objectionable "beats"
resulting from small speed variations between engines must be eliminated.
The Curtiss Automatic Synchronizer,
relieving the attention of the flight crew for other important duties,
effectively "gears" the speed of all engines electrically
under the control of a single cockpit knob at the flight station.

CURTISS ELECTRIC PROPELLERS

Curtiss-Wright Corporation, Propeller Division

Breeze Production holds a Post-War Promise

A Few of the Many Breeze Products in the Nation's Service

Radio Ignition and Auxiliary Shielding • Multiple Circuit Electrical Connectors • Flexible Shielding Conduit and Fittings • Cartridge Engine Starters • Internal Tie Rods • Elevator and Rudder Tab Controls • Flexible Shaft and Case Assemblies • Aircraft Armor Plate

Peacetime Progress is Forged in the Flame of Wartime Production

Today as our armed forces smash forward to secure their beachheads on the Invasion Coast, Breeze Flexible Shielding Conduit by the mile and Breeze Multiple Electrical Connectors by the thousands are but two of the many items of Breeze manufacture that are helping make Victory possible. Communications and transportation for our fighting units on land, sea, and in the air are aided every minute of every hour by the dependable performance of such vital Breeze products as Radio Ignition Shielding, Aircraft Armor Plate, Flexible Shaft and Case Assemblies, Tab Controls and Actuators and Cartridge-type Engine Starters.

Tomorrow the same production lines that were able to turn out these items in such vast quantities, and the same hands whose skill and experience engineered them, will be available to manufacture the goods of peace. And the Breeze Mark which which has become a symbol of dependability to our fighting men on world-wide battlefronts will continue to be a mark of quality on products of the future.

Breeze BREEZE MARK

CORPORATIONS, INC. NEWARK, N. J.

Million Items in Transit as PAA Quits Treasure Island Air Base

M-Day Preceded by Nearly a Year of Detailed Planning

By PEGGY GUETTER

MORE THAN A MILLION items, ranging from Clippers to rivets for the huge flying boats, are on the move in San Francisco as the Pacific-Alaska Division of Pan American Airways leaves its operating base on Treasure Island for new headquarters, 14 miles away, at the city's Municipal Airport in South San Francisco.

M-Day for the company arrived late in July. Nearly a year of detailed planning preceded the move, one of the largest ever undertaken by any industry, and one which will require three to four weeks.

Treasure Island will become a 100 per cent Naval facility, and in exchange, the Navy has constructed comparable hangar and seaplane accommodations for the city. The new base to be used by PAA represents an investment in excess of $3,500,000.

To grasp the size of the project, statistics on the big move as carried out by three transportation contractors show that:

1. Sixty thousand cubic feet of office furniture is being moved by van. A fleet of 60 vans, each with a capacity of 1000 cubic feet, is being used.
2. Three hundred thousand cubic feet of equipment, such as machine shop equipment, is being moved by truck.
3. Large, unwieldly pieces of equipment, such as huge work stands and beaching gear, are being moved by barge.

Long before the movement of physical properties came the problem of resettling 2500 employes, representing 1500 family groups, from homes in the East Bay area to homes in the proximity of South San Francisco and the Peninsula area. R. L. Barnes, industrial relations manager, tackled this headache. Since last Fall 1000 families have moved. Single people, presenting the biggest problem, helped supply an answer in many instances through pooling their home sites.

The entire move is being supervised by L. C. "Tommy" Reynolds, division manager. Directly in charge is Frank McKenzie, division airways superintendent, for whom moving a base of operations is not a new problem. He joined Pan American to supervise construction of the company's first base in the area—the site at Alameda which was completed in 1935. This was later to become Alameda Naval Air Station and the airline moved to Treasure Island in 1939.

Last fall McKenzie, with George Kuhn, assistant airport engineer; Peter Fisher, architect and estimator; and H. C. Wood, architect, started to estimate and inventory the move. By last January 22, every detail was down on paper. In late July the final installations, including fueling, buoys, and marine railways were finished for occupancy.

Behind the planning was the condition that there would be no disruption of service to the Pacific war zones where Pan American is flying vital materials and passengers under contract to the Navy.

To achieve this, the project was divided into three phases. First to move was the training craft section. Next comes the Navy contract flying equipment with its shops and complements. Last will be the Boeing Clipper fleet and its shop facilities.

Each piece of machinery has been numbered. On the machine shop and hangar floors of the new quarters are chalklines carrying a corresponding number to show where the machinery or equipment is to be placed. All offices are assigned space on a master plan. Here, too, every piece of furniture carries a tag and destination by corresponding number.

Ten specially built boxes, 6 x 8 x 20 feet, are an exact fit for the truck beds. These boxes are placed in the shop about to move, filled, lifted by crane to the truck, and carted to the corresponding shop at the Municipal Airport. The large crates keep rotating between the two bases. Smaller items are boxed, itemized and manifested for checkers at both ends who coordinate shipments.

PAA's operations department is arranging to completely service as many planes as schedules will permit, thus building up a backlog of equipment. In addition, major overhauls are scheduled in advance of the major move for each category of equipment. Through the Navy Transportation Pool, mechanics will be kept available where needed, shuttling from one base to the other.

Offices are scheduled for a week-end move, beginning on a Saturday morning and ready for occupants the following Monday morning. A skeleton force will remain at Treasure Island.

In summary, the following departments are on their way—operations, maintenance, communications, traffic, general administrative (such as executive offices, accounting, industrial relations), commissary, and employes' cafeteria. Ready to go are the propeller, metal, carpenter, accessory, ship's equipment and instrument shops.

L. C. "Tommy" Reynolds, left, Pacific-Alaska Division manager of Pan American World Airways, and Frank McKenzie, airways superintendent for the company's division, in charge of moving P. A. A.'s operations from Treasure Island to San Francisco Municipal Airport, check blue prints of new facilities. Reynolds before joining P. A. A. in 1937 served in the U. S. diplomatic corps. McKenzie, veteran airport expert, joined P. A. A. in 1935 to establish Alameda base and since that time supervised the construction of a Transpacific Airway—Wake, Kingman's Reef, Canton Island and Noumea, New Caledonia, being among the projects he directed. He also established bases for the Alaska Division at Ketchikan and Juneau.

Kenneth E. Allen Joins American Aviation Staff

Kenneth E. Allen, active in the air transport industry for the past year and a former newspaperman, has joined the editorial staff of American Aviation Publications.

Allen

Director of public relations for Continental Air Lines in Denver since June 1, 1943, Allen resigned to assume his new position. In addition to having charge of Continental's press and publicity program, he established and edited the company's publication, 'The Continental Eagle.'

Allen was born and reared in Minnesota, but moved to Colorado in 1932 where he attended Western State College at Gunnison. He began newspaper work at Lamar, Colo., and later was employed by the Clovis, N. M., *News-Journal* and the Albuquerque, N. M., *Tribune* before becoming director of publicity for the New Mexico State Tourist Bureau in Santa Fe. From 1942 until 1943 he was with the Albuquerque Bureau of the Associated Press.

He is a member of Beta Kappa fraternity, New Mexico Press Assn., Denver Press Club, and Society of Automotive Engineers.

Airport Officers Named

The American Association of Airport Executives at its meeting in Chicago elected the following officers: Maj. Charles E. Hanst, president; Woodruff De Silva, first vice-president; Neil Blackstone, second vice-president; Howard Crush, third vice-president; and Maj. George Moore, secretary-treasurer.

Bates Gets New Command

Lt. Col. Graham S. Bates, formerly executive officer at Luke Field, Arizona, has been named commanding officer to succeed Col. John K. Nissley, assigned to a new post by the AAF. Well-known in Southern California aircraft circles, Col. Bates, a World War I flyer, was public and industrial relations officer for the Western Procurement District, AAF Materiel Command, before going to Luke Field last year. He served in the Western District under both Maj. Gen. C. E. Branshaw and Brig. Gen. D. S. Stace.

Alaska Spruce Saves the Day

Giant Rafts of Sitka Are Being Towed 925 Miles; Finished Members Go Into U. S., British Craft

A SIDELIGHT on the mobilization of American resources for wartime production of wooden gliders and planes, including Britain's famed "Mosquito", was told last week when the Forest Service, Department of Agriculture, revealed details of its $3,500,000 Alaska Spruce Log Program.

When it became apparent in January, 1942, that the Sitka spruce available in Washington and Oregon was not sufficiently "straight-grained" nor clear enough for use in aircraft, the United States took advantage of the rich stands of Sitka in its Tongass National Forest, embracing a number of small Alaskan islands west of British Columbia. A headquarters camp was set up on Kosciusko Island.

By January, 1943, the first of 40 rafts composed entirely of Sitka logs—each raft being more than 160 ft. long, 70 ft. wide, 40 ft. high, and drawing 20 ft. of water—was on its way to Puget Sound. By last week, the 40th raft had arrived on the Sound and a total of 34,000,000 board feet of spruce had been cut up by American and British Columbian lumber mills. About 20 per cent of the total volume was recovered for specific use as aircraft members and in aircraft plywood, which is considered an especially good recovery when compared with that recovered from spruce stands in the Pacific Northwest.

Fred B. Agee, who handled the Washington end of the mammoth log-moving project for the Forest Service, such as obtaining priorities for equipment and manpower, reveals that the program has moved along for 19 consecutive months "without let-up and without serious incident."

"The rafts are being brought down through inland channels," he said. "We take advantage of the tides to boost them east through Sumner Strait, then they start the trip south. They are pulled by ocean tugs of 600 hp. They average about three miles per hour."

Not until last January was bad weather encountered on the few open-water stretches of the 925-mile course, Agee reported. During that month, heavy winds gave three of the rafts "a bad pounding", but only one of them broke up. Eighty-five per cent of the logs scattered were reassembled and eventually were brought into Puget Sound, he said.

The logs in each raft range in diameter from 36 to 96 inches, weigh an average of 25 tons, and average 35 ft. in length. They are bound together by wire cable 1¼ inches thick.

Falling operations on the project were completed in May, and with the assembly of a remaining 6,000,000 board feet of logs into rafts and their arrival on Puget Sound, the program will be terminated, Agee said.

At the height of the demand for Sitka spruce last year, the Government got $46.93 per thousand board feet, while recent demand brings only about $31. The Alaska Spruce Log Program was financed by Commodity Credit Corp., and is being directed by B. Frank Heintzleman, head of the regional Forest Service office at Juneau. The logging, tugging, and cutting operations were sublet to contractors chosen through competitive bidding. The logs were graded, before being assembled into rafts, by graders certified by the Puget Sound Log Grading Bureau.

In the Land of the Sitka— After Washington and Oregon forests had been stripped of their best spruce trees, early in the war, the Government invaded the rich timberlands of Alaska. The above photo, taken in the Tongass National Forest, shows a small raft of Sitka logs.

Oversize Hatch— To meet the increasing demand for bulk shipments over its South American routes, Pan American-Grace Airways has designed, engineered, and installed this cargo door (80 x 98 inches) in one of its fleet of DC-3's.

Lend-Lease Aircraft Exports Valued at Over Four Billion

Lend-lease exports of aircraft and parts from March, 1941, through May, 1944, have totaled $4,122,000,000, Leo T. Crowley, Foreign Economic Administrator, reports. A record value of $1,159,000,000 in war supplies exported during the pre-invasion month of May is revealed. This brings the cumulative total of lend-lease exports since March 11, 1941, to $20,525,000,000.

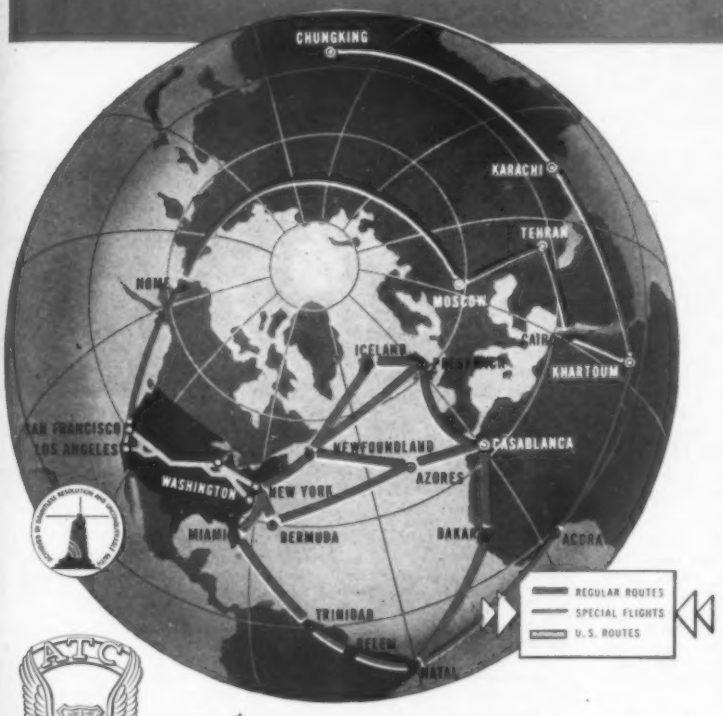
Breakdown of the amount (in dollars) of aircraft and parts sent to various war areas in the three-year period follows: United Kingdom, $1,404,000,000; Russia, $1,124,000,000; Africa, Middle East, and Mediterranean Area, $660,000,000; China, India, Australia, and New Zealand, $565,000,000; other countries, $369,000,000.

Traffic Meeting Maps Sales Agency Plans

The Air Traffic Conference, division of the Air Transport Association, meeting in Denver, agreed upon a standard sales agency plan between agent and carrier as relating to commissions for the sale of air travel in the expanded postwar travel years.

Air line executives told the conference that air traffic will be from 5 to 20 times larger after the war than before. Large increases in air express and mail also were predicted. The officers of the Conference are Charles E. Beard, Braniff, president; N. B. Fry, United, first vice-president; Tom Wolfe, Western, second vice-president; and M. F. Redfern, ATA, secretary.

Thanks for a job well done!



Under the Army Air Transport Command, TWA's Intercontinental Division *has helped put transworld flying on a scheduled basis* — linking five continents, 24 countries.

TWO and a half years ago — on February 26, 1942 — the Intercontinental Division of **TWA** made its first flight across the Atlantic under contract to the Air Transport Command of the United States Army Air Forces.

We believe it is fitting here to express our recognition of the job these men have done and also our appreciation to the personnel of the Air Transport Command for their cooperation.

Starting operations with men and equipment drawn from **TWA's** domestic operation, the Intercontinental Division has flown the oceans and continents day and night with a record of regularity and dependability equal to that of any domestic peacetime airline. Only a small percentage of flights are cancelled. Over the North Atlantic, for example, they completed 91% of all scheduled flights in December, and 98% in January.

This important and faithful work of pilots, crew members, ground personnel and supervisors has helped to give America and her Allies a dependable world-wide airline operation.

To these Americans who have quietly carried on a great and historic project, we say:

"Congratulations — and thanks for a job well done!"

Flying for the Army Air Transport Command, members of TWA's Intercontinental Division wear these insignia. They identify airline civilians in uniform who have carried their peacetime experience and skill into vital war transportation.

TWO YEARS WITH INTERCONTINENTAL DIVISION

Rommel was pushing the Allies before him in Libya when the first TWA Stratoliner, winging its way from Washington, landed in Africa on February 27, 1942. Since then, 15,411,479 miles have been flown and 3,795 ocean flights have been completed — 2,207 representing North and South Atlantic crossings, the remaining 1,588 special flights to other parts of the world. The Intercontinental Division is now flying more than a million miles a month.

The only domestic airline to operate 4-engine transports before the war, TWA, through its Intercontinental Division, was also the first to engage in overseas service after Pearl Harbor. Passengers carried by TWA crews compose a world's "Who's Who," including Presidents, Generals, Cabinet Members, Admirals, Kings, Queens, Ambassadors.

TRANSCONTINENTAL & WESTERN AIR, INC. Jack Frye *President*

TWA *POINTS THE WAY*

A Debate in Letters

McCarran vs Putnam on Chosen Instrument

[Letters on the vital issue of whether there should be one or several United States airlines operating postwar ocean routes have been exchanged by U. S. Senator Pat McCarran and Carleton Putnam, president of Chicago & Southern Air Lines, Inc. The main contentions of each, followed by the texts of the letters, are reproduced here.]

Senator from Nevada Says:

"I propose a single American Flag Line in international transportation, with all existing American air carriers participating in its management and direction and sharing in its profits. . . .

"That will mean unprecedented growth for American aviation and new properity for the air lines of the country, as well as giving this country the 'inside track' to the commerce and industry which world-wide air transportation will develop. . . .

McCarran

"You vision the sphere of world air transportation, apparently, as a composite of neatly compartmented subsections, each walled from the rest. I view it as a whole. I can envision some difficulty in determining just where one sphere of influence should end and another begin. . . .

"Perhaps it may be argued that the ideal situation would involve termination of all subsidies and the opening of all foreign routes to a free competition among all carriers. But, would not such a policy simply be a way of making it possible *'for the biggest fish who gets there first to eat everything else in the pool?'* . . .

My dear Mr. Putnam:

It seems to me that you and I are not so far apart. In many respects we see the same vision and are seeking the same ends.

It seems a shame that we should place ourselves before the public as antagonists when our major aims are so much the same. With a view to achieving a better understanding between us I hope you will bear with me while I set down certain thoughts concerning your spoken and written statements and point out what seem to me some of the parallels in our interests and some of the divergencies in our viewpoints.

With you I share the vision of a subsisting frontier, now pushed beyond the oceans and into the air. I like your phrase, the "wide American chance". I have a vision, too, of America's destiny as the outstanding power in world air transportation. I am determined to do what I can to bring about fulfillment of that destiny. As you pointed out so well in your 10th Anniversary Speech, the immediate task that faces American air transportation is in "opening the gates to new continents."

"But for us in American air transportation," you say—and I would paraphrase that to read "For us in America,"—"the greatest inspiration lies in the possibilities those countries offer in every field of industry and exchange after the air age has made it easier for them to develop themselves."

I believe that my proposal for a single American Flag Line in international air transportation, with all existing American air carriers participating in its management and direction and sharing in its profits, will mean unprecedented growth for American aviation and new prosperity for the air lines of the country, as well as giving this country the "inside track" to the commerce and industry which world-wide air transportation will develop.

In your letter to Senator Vandenberg under date of March 27, you wrote.

> "It should not be assumed that the opponents of the McCarran proposal desire, in the alternative, to see the United States' position weakened in the foreign field by some sort of cat and dog fight between a number of American Flag Lines entering any one foreign country. I, for one, am quite willing to concede that from a political standpoint this kind of situation might be detrimental to the interests of the United States, particularly where some other foreign government was entering the same country with a single government-sponsored air line. It seems to me that the fallacy in the whole McCarran idea is the assumption that this is the only alternative to the combine concept, whereas actually all of the advantages of a single American front in any given country can be had by the award of a certificate to a single American Flag Line *vis-a-vis* that country. The point is not that there should be more than one American Flag Line running to each foreign country, but that the opportunity to operate abroad should be distributed among a variety of carriers, whether or not (and perhaps frequently not) in competition with each other in any given country."

You vision the sphere of world air transportation, apparently, as a composite of neatly compartmented subsections, each walled from

C. and S. President Replies:

"Shall we have a billion-dollar government subsidized 'chosen instrument' to monopolize American participation in international air transport? . . .

"What your bill offers to a line like Chicago and Southern is the difference between complete autonomy in operating some international route and a still, small voice on the board of a giant combine. . . .

Putnam

"The abdication would be as nearly complete as I can conceive it. I do not believe that any of the smaller air lines of the U. S. would be able to develop a single spark of enthusiasm or real sense of partnership in connection with such an arrangement. All of the important decisions as to policy would necessarily gravitate into the laps of Juan Trippe and the presidents of the Big Four." . . .

"I do not see any arguments in favor of your proposal which could not be advanced with equal validity on behalf of a proposal to join all domestic lines of the United States into one combine or one All American Domestic Flag Line—*from which may the spirits of our forefathers defend us.*" . . .

My dear Senator McCarran:

I was both pleased and honored by your letter of May 2, and by the detailed care with which you have examined the material I sent you. Your interest in the welfare of our industry is so obvious that I deeply regret the few points of disagreement between us.

These points however seem to me vital and fall into two general categories:

(1) The relative number of responsible jobs available (the degree of stimulation to individual initiative and the relative opportunity for exercise of various independent concepts of enterprise) under (a) a system by which the Civil Aeronautics Board distributes foreign routes among a wide variety of carriers and (b) a system by which all our foreign services are managed by one Board of Directors heading one giant operating company, and in which each air line's participation is limited to a minority—in most cases a very small minority—of directors, and

(2) The difficulty of properly distributing foreign routes among a number of independent American carriers.

Beginning with (1), I note that Title V, Section 504, of your Bill S1790 provides that "management of the corporation shall be vested in a board of directors consisting of one member designated by each holder of Class A stock and ten additional members who shall be elected annually by the holders of Class A stock." In the light of preceding sections of this Title, it is apparent that the great majority of our domestic air lines would have but a small individual representation on this board, and that all of the domestic companies outside of the Big Four would be outvoted by the Big Four, or perhaps I should say Big Five, after Pan American has been added to the list of American, United, Eastern and TWA. In other words, what your bill offers to a line like Chicago and Southern is the difference between complete autonomy in operating some international route and a still, small voice on the board of a giant combine. Obviously all the real zest of management enterprise would be reserved for the relative few who were chosen by the board for this purpose and in whose choice Chicago and Southern would have a negligible influence. The abdication would be as nearly complete as I can conceive it. I do not believe that any of the smaller air lines of the United States would be able to develop a single spark of enthusiasm or real sense of partnership in connection with such an arrangement. All of the important decisions as to policy would necessarily gravitate into the laps of Juan Trippe and the presidents of the Big Four.

Candor compels me to confess that I shuddered at the paragraph in your letter which reads: *"Remember that under the provisions of S1790 the All-American Flag Line would be controlled by a Board of Directors in which each air carrier now operating in this country would have a voice. There is your 'ferment of diversified executive thinking and enterprise' which will insure forward looking policies and 'aggressive' management in the operation of the proposed line."* As one who has taken part as a minority member of a large Board, as well as one who has had an active position in the management of my own company, the comparison between the "ferment" in the two cases is so pitiful that I draw the curtain over any further comment. In fact no experienced business man would even attempt a comparison.

Consider the alternative. Under an arrangement that distributed


Presenting
LOCKHEED'S
Constellation
A STORY OF
NEW WORLD STANDARDS
IN AIR TRANSPORTATION

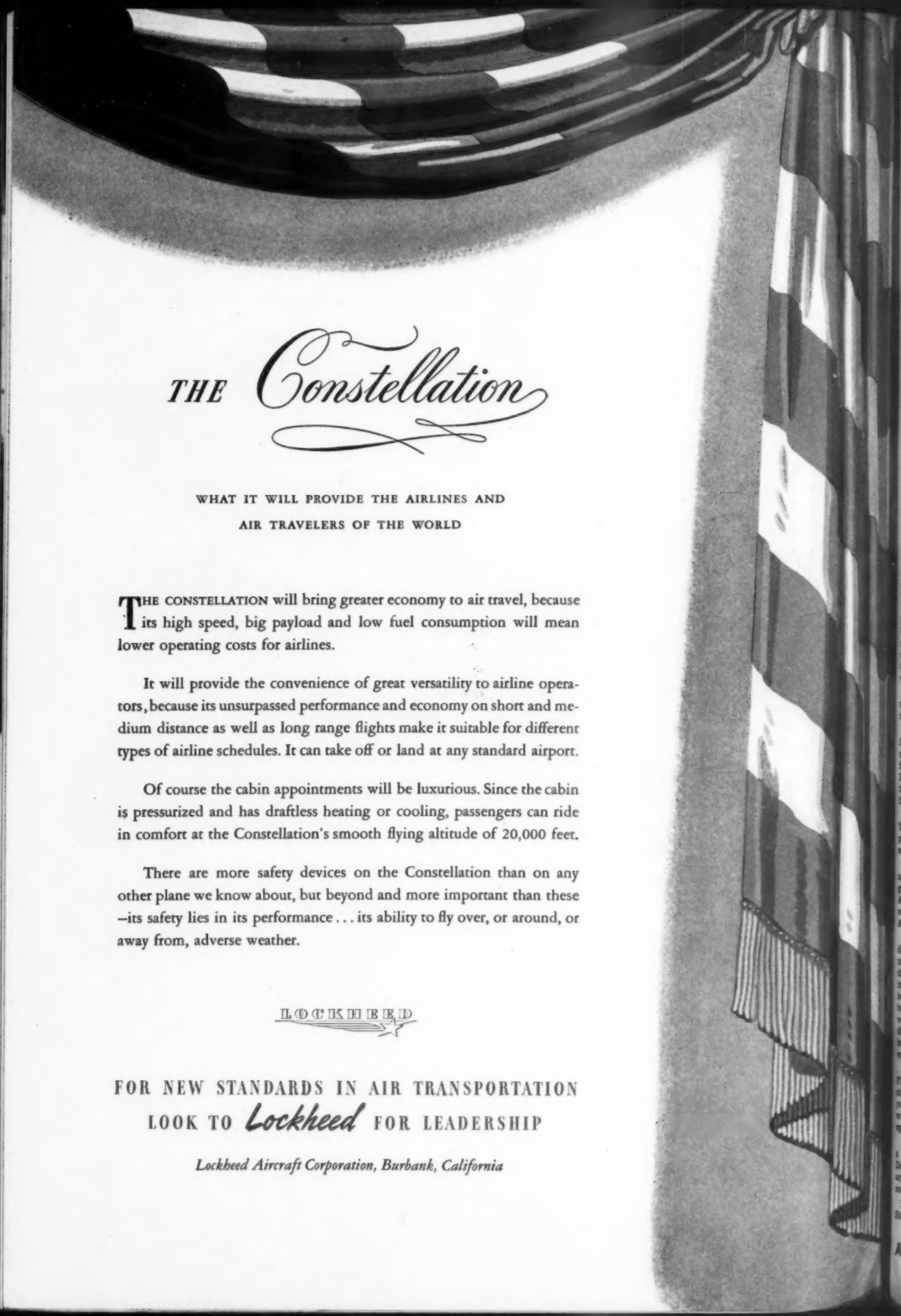
1783
1786
1852
1903
1906
1909

The epic of flight, of man's resolute will to win the air, is still in the making.
Yet when the story is entered in the chronicles of the future,
the Constellation will signal the end of one chapter and the beginning of another.
It will be recorded then: the routine transcontinental flight of less than seven hours,
the precious cargoes swift to the war fronts, the superior speed and rate of climb and load capacity.
All these will be revealed and it will be evident that in the year 1944
the Constellation brought to full expression the combined triumphs of the past,
establishing new standards in air transportation and setting a true course
for the designers and builders of the future.

THIS IS LOCKHEED LEADERSHIP

The Constellation

Highest speed of any transport—cruising at more than 300 m.p.h.
Longest range of any transport—non-stop coast to coast
Biggest load-carrying capacity of any transport—64 passengers, crew and cargo
Greatest rate of climb of any transport—one-third mile a minute on four engines
AND *these performance factors make the Constellation the safest of any transport.*



THE *Constellation*

WHAT IT WILL PROVIDE THE AIRLINES AND
AIR TRAVELERS OF THE WORLD

THE CONSTELLATION will bring greater economy to air travel, because its high speed, big payload and low fuel consumption will mean lower operating costs for airlines.

It will provide the convenience of great versatility to airline operators, because its unsurpassed performance and economy on short and medium distance as well as long range flights make it suitable for different types of airline schedules. It can take off or land at any standard airport.

Of course the cabin appointments will be luxurious. Since the cabin is pressurized and has draftless heating or cooling, passengers can ride in comfort at the Constellation's smooth flying altitude of 20,000 feet.

There are more safety devices on the Constellation than on any other plane we know about, but beyond and more important than these —its safety lies in its performance . . . its ability to fly over, or around, or away from, adverse weather.

LOCKHEED

FOR NEW STANDARDS IN AIR TRANSPORTATION
LOOK TO *Lockheed* FOR LEADERSHIP

Lockheed Aircraft Corporation, Burbank, California

McCarran - - -

the rest. I view it as a whole. I can envision some difficulty in determining just where one sphere of influence should end and another begin. Suppose one American Flag Line is to handle the run to Mexico. Will it be allowed to continue on to Chile, or shall another line fly over Mexican territory without stopping? Shall we have one line to the Philippines and another line to China, or shall we have the China line include the Philippines as a stop? Shall we have, perhaps, one line there, or Asia?

Shall one line fly to Brazil while another line flies the southern route to Portugal or North Africa? Shall three or four lines make the Atlantic hop and then diverge, one to Paris, one to Berlin, and one to London? Would you think it wasteful to have three lines operating in the United States over the same route from New York to Salt Lake City and then diverging, one to Spokane, one to San Francisco, and one to Los Angeles?

If apportionments of foreign air routes are to be made on the basis you suggest, how are we to determine what is equitable distribution? Shall Pan American retain all the lines it has? Which line shall get the "good" routes and which line shall get the "bad" routes? Would you be satisfied by an allocation of routes which gave Chicago and Southern the Carribean area, and gave another company the right to operate to South America? Would that other company be satisfied by an allocation under which its assumed position and yours were reversed?

If each of the licensed air carriers now operating in the United States should be given a slice of foreign air transportation, would the number of American companies in the field of air transportation be increased? Would there be any increase in opportunities for leadership in really responsible jobs? If your answer is yes, on the theory that expanded operations would mean more and bigger jobs at the top in each company, then consider this: By the same reasoning, how many responsible jobs will be created by my proposal for a single All American Flag Line?

Sees Creation of Cartel System

You have made much of the point that international air transportation can provide for American youth new opportunity for leadership, creativeness and responsibility. You indicated, in your Houston speech last January, that the margin between bad and good, as you view it, lies somewhere between three or four airlines, on the one hand, and fifteen or twenty or more, on the other. But as I understand it, you have not advocated completely new and independent lines for international air transportation; you visualize Chicago and Southern taking over a slice of the International business, and other existing airlines taking other slices. Perhaps I am wrong, but I do not see how that will increase the number of operating airlines.

In S. 1790 I have proposed a new type of experimental lines to multiply the opportunities for new ventures in interstate air commerce. Does this proposal meet your approval?

In your speech at Houston you said: "Of course, we can go too far with the cultivation of independent units. When we carry duplication of effort and facilities to the degree that the cost out-runs the benefit, we have ridden a good horse to death and everyone suffers." Into how many parts can we break down our foreign air transportation without reaching the point where duplication of effort and facilities results in the cost out-running the benefit?

In your Anniversary Speech, you recommend regional monopolies. You state that "if you authorize unbridled competition here, if you permit wasteful duplication of services, you squander the taxpayers', as well as the passengers', money."

You and I, Mr. Putnam, appear to differ not so much in principle as inconception. You favor regional monopolies to safe guard the growth and economical operation of existing air lines. I favor a single American Flag Line in the field of international air transportation in order to safeguard the growth and foster the economical operation of American aviation in that broad field.

In your newspaper advertisement published Sunday, April 30, you declare that you are unalterably opposed to cartels. So am I, as a matter of principle, in aviation or any other line of business or industry. But you propose a system of small monopolies or spheres of influence apportioned among different air carriers whereby each will be protected from the competition of others. You may not realize it, but this would be a cartel system. What I have proposed is a joint venture by All American Air Lines, who would preserve their individual identities in domestic business but present a united front in opening up for the benefit of America the air commerce of the world.

Remember that under the provisions of S. 1790 the All American Flag Line would be controlled by a Board of Directors in which each air carrier now operating in this country would have a voice. There is your "ferment of diversified executive thinking and enterprise" which will insure forward-looking policies and aggressive management in the operation of the proposed Line.

You imply in your Anniversary Speech that the purpose of creating a single American Flag Line is to make things easier for the State Department. I think you must have realized the weakness of this argument, for it was the only point in your speech where you descended to sarcasm.

I assure you my proposal was not made to ease the burdens of the State Department and I am not at all sure it will have that effect.

Putnam - - -

foreign routes among independent carriers, the management of each of those carriers would function in its assigned field with complete autonomy. There would be a large number of such managements, reporting to a corresponding number of independent boards of directors, in contrast with one management reporting to one board. Here is true diversity through autonomy. You will note that this would be the case regardless of whether the number of air lines in the total domestic and international picture were increased or not. It is hardly for me to decide the question whether the total number of air lines in the two fields *should* be increased. This would be a decision for the proper administrative body (CAB) to make after a survey of the detailed facts in every instance. It might well be that a number of new carriers could be brought into the field, but whether this were done is not material to my point, in view of the enormous enlargement of opportunities which would be distributed among existing carriers, even if no new carriers were added. The "ferment" would be provided by introducing into the international field the diversity already existing in the domestic field.

You question in your letter whether, under my proposed plan of widely distributed independent lines, there would be any "increase in opportunities for leadership in really responsible jobs," and you ask me to consider "how many responsible jobs will be created by my proposal for a single All American Flag Line." The difference here between the two policies is as wide as the difference between the stultifying effect upon all workers of a remote centralization of control in a vast organization, and the quite opposite effect upon enterprising men of taking a job where lines of responsibility lead quickly and directly to the office across the hall.

Let me put the point graphically by the following comparative illustration: Would you rather be the Traffic Manager of the Mexican Division of an All American Flag Line or Traffic Manager for the Mexican Division of an independent company serving Mexico? Your range of responsibility in each case would be the same. But in the latter case, you would be much more profoundly a part of the policy-making group of your company than you would be if you were one of dozens of such men acting as division manager for a great combine. Your chances of becoming Traffic Manager would be much greater. Your own freedom of action and judgment would, in practice, be immeasurably larger. Furthermore, if by chance you had a falling-out with the president of your company for reasons beyond your control, you would be able to go to the president of another independent air line and get a job as his division traffic manager somewhere. But if you were working as the division traffic manager for a great combine and had a falling-out with the president of that organization, or its controlling clique, the entire foreign field might well be closed to you forever.

Opportunities Equitably Among All

Moreover, should it be true that we already have enough domestic air lines to take care of all our international routes, and that more would not be economically justified, surely our policy should then be to distribute the international opportunities among such domestic carriers, rather than confine the larger number of carriers to the smaller territory, and award all of the enormous foreign field to one carrier. The least we can do is distribute the opportunities equitably among all. Even though we may not increase the number of operating lines we will have greatly increased the activity of those lines, the scope and number of jobs whose channels of authority will lead approximately 15 to 25 times more quickly to the heart of their policy-making body than would be the case under your proposal, and with 15 to 25 times the degree of autonomy in each case.

(2) I come now to the points in your second category. If there is any greater difficulty in the allotment of routes in the international field than in the domestic field, it is only one of degree, and I do not believe very great degree at that. You ask the question whether it would be wasteful to have three lines operating in the United States over the same route from New York to Salt Lake City and then diverging, one to Spokane, one to San Francisco and one to Los Angeles, and yet this is a problem which is within the province of the CAB to decide any time it chooses. The time may come when economic conditions will justify precisely such an arrangement, and the CAB has the power to effectuate it, if it does. In fact by striking the words *Salt Lake City*, in your example, and substituting the word *Chicago*, you have exactly stated the situation now existing domestically; and it is worth noting that, far from being wasteful, this condition produced the first cases of carriers lifting themselves out of the subsidy class. It is presently the CAB's province to determine domestically what you call "equitable distribution," and there is no reason why it cannot do the same for foreign routes. This very day and hour it is deciding the question "which line shall get the good routes and which line shall get the bad routes," throughout the United States. Let it do the same abroad. It was set up by Congress for this purpose, since only in this way can distribution be fairly equalized and the principles of free enterprise preserved. I note your question "Would you be satisfied by an allocation of routes which gave Chicago and Southern the Caribbean area and gave another company the right to operate to South America?" My answer, Senator, is that we would be delighted. We would be equally pleased with the reverse proposition.

There are many parts of our domestic system today where the Board does not permit the paralleling of existing operations because traffic does not warrant it. On the other hand, there are several places where such paralleling is permitted because the traffic does warrant

3 Transatlantic Records Broken Within 24 Hours

Three planes, one each representing American Export Airlines, Naval Air Transport Service, and British Overseas Airways Corp., broke transatlantic records July 21 and 22. BOAC's Boeing 314 flying boat "Berwick" crossed from Foynes to Botwood on July 21 in 11 hours, 33 minutes, with Capt. A. Gordon Store at the controls.

The next morning, a converted U. S. Navy Coronado of NATS established a record for transport planes of its class when it arrived at La Guardia Field 19 hours, 39 minutes after its departure from an undisclosed British base. Capt. Olaf S. Abrahamson, formerly of Pan American Airways was in command.

The AMEX plane, piloted by Capt. Edward A. Stewart and aided by strong tail winds along its Great Circle route, lopped 19 minutes off the record from Foynes to New York the same day.

Missouri Plans Airparks

A plan providing for the building of hundreds of airparks to serve private flyers and which would form the foundation for a feeder airline system to be coordinated with the trunk air lines crossing Missouri is being developed by the Missouri State Resources and Development Department. The project is based on recommendations of the Department's Aviation Advisory Board, composed of members representing various interests of the industry.

Kinney Made Chief of Air Carrier Division of CAA

James L. Kinney, a World War I flyer, has been named chief of the Air Carrier Division of CAA. He succeeds William T. Miller who died recently.

Kinney

Kinney was one of the first Aeronautical Inspectors appointed after the Aeronautics Branch of the Department of Commerce was organized. He began work with the Branch in 1927.

The new Air Carrier chief distinguished himself in connection with his early work in behalf of instrument flying and instrument landing. He made the first studies on instrument landing techniques in connection with the installation of the experimental system at Newark, N. J.

AAF Training Program

The Army Air Forces has inaugurated a training program for 4,225 officers and men on duties in connection with contract termination, contract auditing, and property disposal. Courses are being conducted at Vandalia, O.; the Army Industrial College, Washington; the Judge Advocate General's School, Ann Arbor, Mich.; the AAF Budget and Fiscal School, Dayton, O.; and at Harvard University.

Uniform Intrastate Air Act Being Drafted by NARUC

A uniform state air commerce act, providing for the economic regulation of intrastate air commerce, is being drafted by the National Association of Railroad and Utilities Commissioners.

In accordance with action taken by the Association's executive committee March 16, 1944, when appointment of a special committee of state commissioners to study and report on the desirability of uniformity in state aviation legislation was authorized, President Wade O. Martin of the Association assigned the task to the legislation committee of which Walter R. McDonald is chairman.

The first draft of the bill has been completed and members of the legislation committee are now making a study of it. Accompanying the bill is an explanation which compares various features of existing and proposed federal and state regulatory statutes.

Copies of the bill and explanatory matter has been sent to the various state members for comment. When the Association approves the draft, it is expected that the bills will be dropped in the legislative hoppers of most of the state legislatures early in the year.

New Airport Grass

A new buffalo grass has been developed by the Department of Agriculture for airports in the Great Plains region. It is said to make a turf that stands up under especially heavy duty. A superior strain of the grass has been developed at Hays, Kans., by plant breeders of the Agricultural Research Administration.

McCarran - - -

The Bill imposes numerous duties upon the State Department, some of which may prove onerous to that Department.

In your Houston Speech you made cogent reference to the dangers of using the word "competition" loosely, and the phrase "free enterprise" carelessly. I agree with you wholeheartedly on this point. That is one reason why I favor keeping surface carriers out of the air transportation field; why I have proposed the experimental license for new routes and feeder lines; and why I have attempted to write into my Bill the least regulation and control of air contractors consistent with the necessity for safety regulation and for the protection of the little fellow from unfair competition.

Subsidies are an important consideration in the field of foreign air transportation. Obviously, it will be to the advantage of the United States to have operations conducted over many routes where such operations will not be immediately wholly sustaining. On other routes, I believe you will agree with me there may be excellent opportunities for operations which will be substantially profitable almost from the beginning. Shall the Government grant subsidies to some air lines and withhold them from others? Or, if subsidies are to be granted, shall it not be proper that the whole sphere of foreign air transportation be considered as a unity with the profitable operations helping to carry the cost of those operations deemed necessary, but which are not immediately profitable, and the Government providing enough subsidy to make up the overall deficit, if any?

Perhaps it may be argued that the ideal situation would involve termination of all subsidies and the opening of all foreign routes to a free competition among all carriers. But, would not such a policy simply be a way of making it possible "for the biggest fish who gets there first to eat everything else in the pool"?

You and I have essentially the same aim: The widest possible development of the air frontier, for the benefit of future generations of Americans. You believe this can best be done by limiting American enterprise in world air transportation to sectors of influence which, though large in area, are in relation to the world picture provincial. I believe it can best be done by freeing American enterprise, so far as possible, from all restrictions so that it may be concentrated on the one job of meeting foreign competition in international air transportation. Perhaps I am wrong, but the position I have taken is the result of a great deal of earnest study. I welcome discussion of my proposal, and if further study weakens my faith in the convictions I now hold, I shall admit it gladly.

PAT McCARRAN

Putnam - - -

it. In every case it is a question of fact which cannot be decided by legislative fiat but must be left to the judgment of an administrative board acting upon the circumstances in each particular case. Even where a regional monopoly might be said temporarily to exist, this condition could continue only as long as traffic did not support the operation of more than one line. (If this is a cartel system, it is news to me.) I repeat that I do not believe the facts in the International field are any more complex or difficult to handle than they have been domestically, and I see no reason, therefore, why the same principles cannot be applied.

Frankly and conversely, I do not see in your letter any arguments in favor of your proposal which could not be advanced with equal validity on behalf of a proposal to join all domestic lines of the United States into one combine or one All American *Domestic* Flag Line—from which may the spirits of our forefathers defend us.

I beg you to forgive the bluntness of this letter and to accept my assurance its positive tone connotes no disrespect. I only wish I could convey to you some of the realizations that have been born in me as a result of ten years of pioneering in my field, particularly as to what the Wide American Chance really means. And I earnestly trust you will not permit the self-serving arguments of Juan Trippe, whose line is already gargantuan and surfeited with routes, to lead you inadvertently to perpetuate what must in all realism be called the Trippe Monopoly.

CARLETON PUTNAM

Lockheed Official Honored

The Distinguished Civilian Service Award has been presented to R. Randall Irwin, director of industrial relations of the research department of the Aeronautical Chamber of Commerce and assistant to the president of Lockheed Aircraft Corp., by Under Secretary of the Navy Ralph A. Bard for his outstanding work as a member of the Navy Manpower Survey Board.

Mid-Continent Gets 3 DC-3's

In line with a plan calling for gradual replacement of its present 14-passenger Lodestar planes with Douglas DC-3's, Mid-Continent Airlines has acquired three of the larger craft. The planes were purchased with approval of the Civil Aeronautics Board and the Army Air Forces. They are now undergoing conversion at the Douglas factory in Santa Monica, Cal.

. . . writes Captain William C. Napier, Jr., C.A.P.

"I should like to add my own comment," wrote Capt. Napier last April, "as to the reliability of the Franklin engines. As noted, I owned a Voyager which I had flown about 200 hours before taking it down to Pascagoula, Miss., on Coastal Patrol, and on that duty I flew Franklin powered ships around 600 hours and my own ship was flown over 900 hours. We lost several airplanes due to motor trouble, but never one with a Franklin engine."

We at Aircooled are proud of such records. Building fine engines for fine airplanes is our business.

Captain Napier and his Franklin-powered Stinson Voyager which logged over 900 hours of coastal patrol work without engine failure.

Franklin
FINE AIRCRAFT ENGINES

AIRCOOLED MOTORS CORP. SYRACUSE 8, NEW YORK

Traffic Dispatching System Brings Big Gain in Payloads

TWA Plan Directing Control From Three Points Wins Praise

A SYSTEM of traffic dispatching, inaugurated by Transcontinental & Western Air has increased the payload 450 pounds per plane mile for TWA's fleet. This is the equivalent of two and one-quarter passengers.

In operation more than a year, the traffic dispatching method consists of ascertaining the exact fuel requirements and allocating passenger and cargo load in advance of every flight, and then advising other stations in time for them to utilize the available weight and unoccupied space. As a result, planes are dispatched with greater payloads than under the previous system which belatedly provided the information through routine flight movement reports.

Bartholomew

TWA maintains a staff of traffic dispatchers at three stations—Burbank, Kansas City and New York. Their headquarters are set up in the operations offices so that they can work in close harmony with flight dispatchers. They are attached to the traffic department.

C. E. Bartholomew, manager of system reservations, who has supervised the activity since its inception, explains that traffic dispatching grew out of the necessity of improving load utilization at a time when the airlines were most hard-pressed for lack of equipment.

Increasing the productive performance of a transport plane in wartime is not entirely a matter of engineering, maintenance and scheduling, TWA officials concluded. Engineering has added materially to the amount of available payload by removing unnecessary items; improved maintenance methods have kept planes in the air more hours per day than ever before, and more efficient scheduling has provided additional service with fewer aircraft.

Over and above these methods, TWA devised the fourth step—traffic dispatching—which has been the means of carrying hundreds of additional passengers and many pounds of cargo on flights which otherwise would have gone out with less than capacity loads.

"We made a careful analysis of loads," Bartholomew said. "We found that by noting the amount of payload booked for each flight, including the number of passengers booked through each station from reservations records, we could furnish the flight superintendent (dispatcher) with accurate information regarding the probable payload aboard. The information was furnished to all stations concerned hours before departure time whereas formerly, the information was not available, station-to-station, until shortly before the flight had departed.

"If weather required more fuel than normally, the traffic dispatcher advised the flight superintendent well in advance of departure time the payload that could most conveniently be removed to accommodate additional fuel. In this way, all other stations likewise were given notice of removals earlier than was previously the custom.

"Reversing the procedure, we were able to accommodate additional payloads at times when fuel requirements were low enough to permit additional passengers or cargo. In brief, the position of traffic dispatcher was established on the basis of furnishing information as to weight available for additional payload."

UAL Has Record Quarter; Net Income $1,814,754

United Air Lines has reported for the second quarter of 1944 the highest operating revenues for any quarterly period in its history, made possible by record equipment utilization and abnormal wartime passenger-mail-express traffic.

Net income for the period was $1,814,754, equivalent to $1.13 per share of common stock and $17.28 per share of preferred stock, as against $1,170,622 in the corresponding period of 1943.

Operating revenues for the quarter totaled $8,577,853, and operating expenses and taxes, exclusive of income taxes, $5,665,056, according to the report of W. A. Patterson, president. Other net income before income taxes amounted to $14,957, making total income before income taxes $3,037,754. The provision for federal and state income taxes was $1,223,000.

For the first six months ended June 30, United's net income was $2,924,837, equivalent to $1.79 per share of common stock and $27.85 per share of preferred stock, as against $2,153,400 in the first half of 1943.

CAB Holds Pre-Hearings and Moves Ahead on Study of Atlantic Routes

Three Additional Firms Plan to Seek Lines Over Ocean

THE CIVIL Aeronautics Board moved ahead last fortnight with its plans to hold hearings this fall on the applications now on file for air routes across the North and South Atlantic Oceans.

Pre-hearing conferences, designed to straighten out the evidence to be presented, plus other details, were held in both cases during the first week of August. The conferences revealed that at least three additional companies intend to seek North Atlantic routes, while one carrier will withdraw its application.

Tentative hearing date on the North Atlantic is Oct. 16; on the South Atlantic, Nov. 1.

More than 50 persons attended the North Atlantic conference, which was held by CAB Examiner Thomas L. Wrenn on the applications of American Airlines, TWA, Braniff, Northeast, U. S. Midnight Sun Air Line, Lawrence Van Ryn, U. N. Airships Inc., American Export, Pennsylvania-Central, Trans-Oceanic Airlines and Pan American.

At the conference, National Airlines, Eastern and Moore-McCormack Lines, steamship operators, indicated that they will file applications for routes. Shawmut Air Freight and Transport Co., affiliate of the trucking company, announced at the hearing that it will withdraw its application for trans-Atlantic routes, but will continue to press its petition for air service within the U. S. J. J. Weinstein, Shawmut counsel, stated that the company is not prepared at this time to proceed with foreign routes, but may renew its application at a later date.

Interveners in the North Atlantic case include Delta Air Corp. (in opposition to Braniff, which would parallel some of Delta's domestic routes), Department of Justice (in the Moore-McCormack application), Port of New York Authority, United Air Lines and the Baltimore Aviation Commission.

The South Atlantic pre-hearing conference, held by CAB Examiner William J. Madden, was less well attended and involved fewer applications. Applicants present were American Export, Pennsylvania-Central, Seas Shipping Co., and Pan American. U. N. Airships, which filed an application, was not represented at the conference.

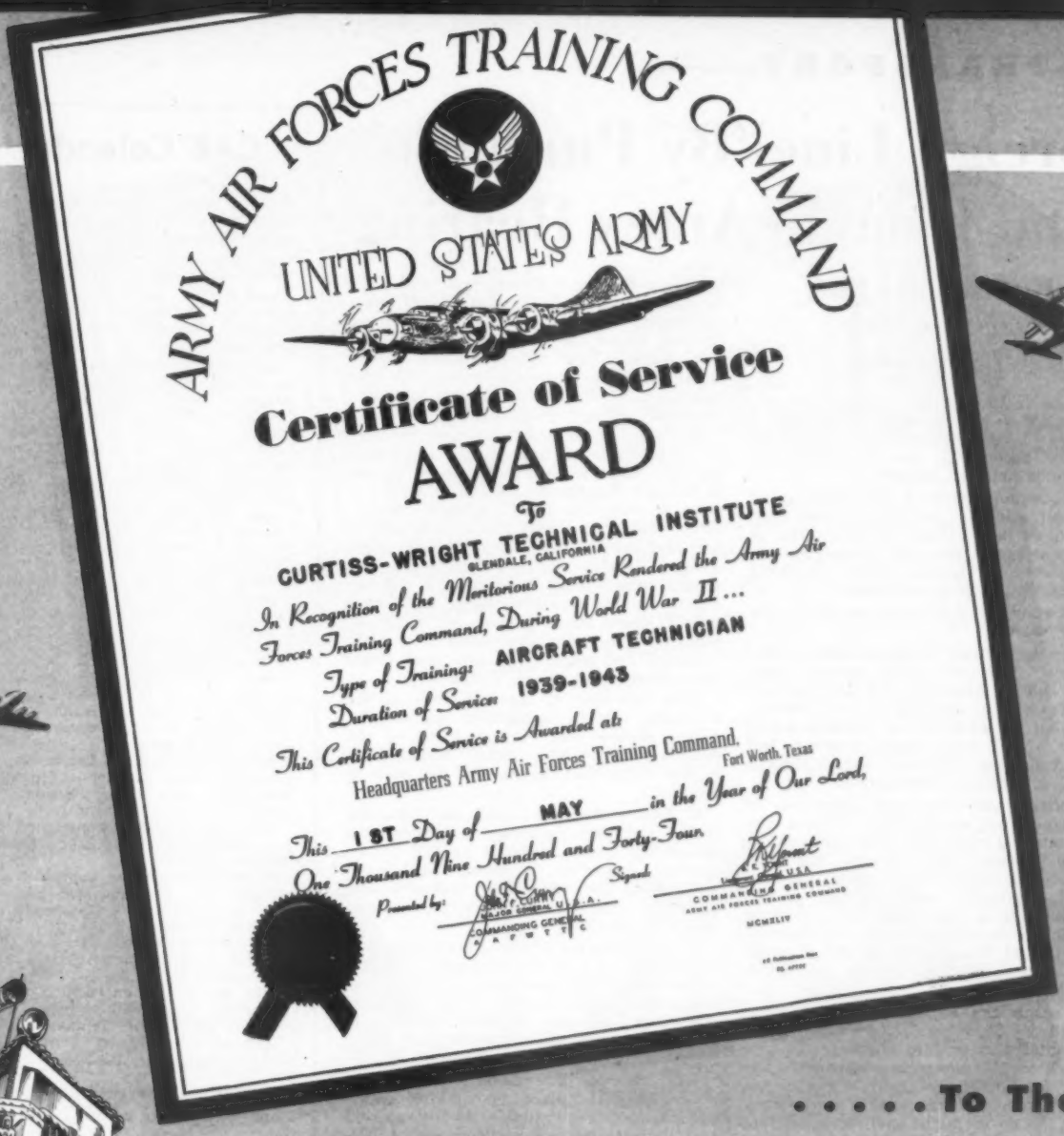
Interveners—which outnumbered the applicants—included the Greater Miami Port Authority, New York Port Authority, Department of Justice, Baltimore Aviation Commission, TWA, American and Eastern.

Seas Shipping Co. told Examiner Madden that it intends to extend its proposed route to Leopoldville, Belgian Congo and to Stanleyville and Johannesburg, Union of South Africa.

It was made clear at both conferences by John Wanner, public counsel, that the parties will be expected to prove convenience and necessity of their proposed routes. The mere fact that the CAB has issued a map of tentative air routes proves nothing Wanner indicated. He also called upon the parties to be prepared to state what type of flying equipment they propose to use.

At both conferences there was discussion regarding the advisability of consolidating the North and South Atlantic cases into one proceeding. No decision was made, however.

Indication of the importance with which other nations view the forthcoming hearings was seen in the presence at the pre-hearing conferences of British, Australian, Swedish, Swiss and Norwegian observers.



. . . . . To The

ARMY AIR FORCES TRAINING COMMAND.

Curtiss-Wright Technical Institute is deeply proud and highly honored in that its record has entitled it to receive the CERTIFICATE OF SERVICE AWARD for "Meritorious Service Rendered" in training approximately 7500 soldiers as Aircraft Technicians for the Army Air Forces. It is a source of further satisfaction that, while training these Army Men with distinction, we continued to train men in civil life for the Gigantic Aircraft Production Front.

The entire personnel is appreciative of the confidence and trust placed in this school to carry out a share of the responsibility in the big job that had to be done. This recognition will be a continuing source of inspiration to us.

CURTISS TECHNICAL WRIGHT INSTITUTE

MAJOR C. C. MOSELEY, PRESIDENT AND FOUNDER
GRAND CENTRAL AIR TERMINAL
GLENDALE 1, (LOS ANGELES CO.) CALIF.

BUY MORE WAR BONDS
★
GIVE TO THE RED CROSS

TISS-WRIGHT TECHNICAL INSTITUTE...BEFORE THE WAR · DURING THE WAR · AFTER THE WAR

Foreign Line 'By Purchase' Vital Issue in Amex Hearing

CAB Examiners Face Big Question After Three-Day Session

EXAMINERS OF THE CAB have before them the question of whether a so-called domestic air carrier can, by purchase, become an operator in the international field of aviation.

The question arose in the hearing on American Airlines' application for CAB approval of its purchase of the control of American Export Airlines, Inc.—holder of a temporary air transportation certificate between the U. S. and Europe.

Contentions of the major parties in the hearing were:

● American Export Airlines, under order to divest from steamship control, contended sale to American Airlines was the most logical and feasible of four alternatives; that the $3,000,000 so realized would provide AMEX with needed financing and that American Airlines would insure AMEX of efficient management.

● American Airlines said approval of this acquisition would give at least one American flag carrier a comparable competitive position with foreign flag carriers because American, through its control of originating traffic, would be responsible for a passenger from interior U. S. to his destination in Europe. American claimed know-how gained through its military operations across the North Atlantic.

● Pan American Airways, an intervener, asserted if CAB put one U. S. transcontinental carrier into the international field, it would have to compensate by giving foreign routes to the other two transcontinental carriers—United and TWA. To do so might spell ruin for Pan American and give a tremendous advantage to the foreign flag carrier.

● United Air Lines, an intervener, argued that there was not sufficient traffic potential to justify certificating three domestic carriers in the North Atlantic area without tremendous government subsidy, that when the Board gave AMEX its temporary certificate, it did not decide that this certificate might be obtained later by a domestic carrier. UAL further argued for one American flag carrier in the foreign field so that all U. S. domestic lines could throw their support behind it to meet the competition of foreign flag carriers.

The hearing required three full days and the parade of witnesses included some of the top flight men in U. S. air transport circles.

Sale Price Discussed

John E. Slater, vice president of both American Export Airlines and American Export Lines (steamship company which owns the airline) was the first witness. Under the terms of the purchase contract, American Airlines would purchase 51.4% of AMEX treasury stock for $3,000,000 or at a rate of $25 a share. This money, Slater said, would be used to build up Export Airlines, two million of it going for new flight and maintenance equipment and hangars while another million would be used to pay off indebtedness. This new financing would enable AMEX, under American Airlines operation, to effectively compete in international postwar aviation, he stated.

An item of $1,510,321 carried on Export's books as an asset under the heading of "Experimental and Development Costs and Expenses" was the subject of close scrutiny by Public Counsel Goodkind. These expenditures related to direct and indirect flying expenses and were spent to develop and maintain the nucleus of the organization to carry out survey flights and to provide the plans which would have been placed in effect as soon as new equipment could have been obtained and expanded operations could have been commenced, Slater said.

With reference to the sale price of $25 a share, Slater sponsored an exhibit which showed the market value of the AMEX stock had been considerably higher than that figure for the last 18 months.

If Export Airlines could not have the traffic support directly through its Steamship parent, then it needed strong domestic support to successfully compete with the extremely powerful organization of Pan American Airways, Slater contended.

A. N. Kemp, president of American Airlines, testified that his company or predecessor companies had been in the international field of aviation since 1928, that American, through military operations, had gained invaluable experience in operations across the North Atlantic.

"We consider that American is merely maintaining its place by making transoceanic service available to its patrons and thereby we are carrying out a natural expansion pattern," Kemp said. He said he felt purchase of Export Airlines would be a profitable transaction for his company's stockholders.

Damon Cites Economies

Ralph S. Damon, vice president and general manager of American Airlines, stressed economies which could be effected through a joint or co-ordinated operation of the two companies. Through pooling of purchases, maintenance costs, and joint use of spare planes, Damon estimated that the consolidated operations would save AMEX $600,000 a year. Another American witness later testified that $500,000 could be saved if the two companies pooled joint sales, advertising and promotional expenses.

Damon sponsored several maps showing Pan American's farflung system of operations and emphasized great traffic generating possibilities. Damon said his company proposed to use Douglas DC-6's which is a modification of the Army's C-54 and the DC-4. This plane, he stated, would have a payload of around 10,000 lbs. Testifying concerning his company's 'know how', Damon said that in May alone, American had accomplished 366 one-way flights across the North Atlantic.

American Airlines, with its traffic generating potentialities in the interior of the U. S., through Board approval of this acquisition case, would be placed in the same relative position as a company like Air France, of France, testified Charles A. Rheinstrom, vice president in charge of traffic. This company, prior to World War II, had the feeder support of its domestic lines to meet its competition in the foreign field, Rheinstrom said.

"The government can give to the U. S. flag carrier the physical advantage of operating from the principal cities of the U. S. to the principal cities of northern Europe. The plane has eliminated shore and coast lines. There is no reason why we as a nation should set up barriers which will prohibit the plane from performing in its natural sphere," Rheinstrom said.

Question of Responsibility

The witness stated that the greatest percentage of world travel of the future would be produced by the United States and everything should be done to enable U. S. flag carriers to carry American citizens. He also spoke of the advantage of a one carrier operation in its ability to assume responsibility for a passenger

CAB Calendar

Aug. 1—Prehearing conference, international routes in North Atlantic area. Tentative hearing date Oct. 16.

Aug. 2—Prehearing conference, international routes in South Atlantic area. Tentative hearing date Nov. 1.

Aug. 9—Oral argument before the Board on Joplin case (Docket 413 et al and Memphis-Oklahoma City-El Paso case (Docket 503 et al)

Aug. 14—Prehearing conference on application of Panagra relating to local service in Peru. (Docket 1496)

Aug. 15—Hearing at Anchorage, Alaska on applications of Alaska Airlines, Woodley Airways and Postmaster General involving new mail and passenger service in Alaska. (Docket 864 et al)

Aug. 31—Oral argument, Milwaukee-New York, Pittsburgh-New York cases. Northwest Airlines, Pennsylvania-Central et al.

Sept. 1—Prehearing conference, international routes, North Pacific area, via Alaska. Tentative hearing date Dec. 13.

Sept. 5—Hearing on Hawaiian cases (overseas). Docket 851 et al.

Sept. 5—Hearing on application of Braniff Airways and T. E. Braniff for Board approval of acquisition of Aerovias Braniff, S. A. (Docket 1360 and 1373) (Tentative)

Sept. 5—Hearing in Denver on applications involving service in Rocky Mountain area, Ray Wilson, Inc. (Docket 152 et al) (Tentative)

Sept. 15—Prehearing conference, Central Pacific, via Hawaii. Tentative hearing date Jan. 10.

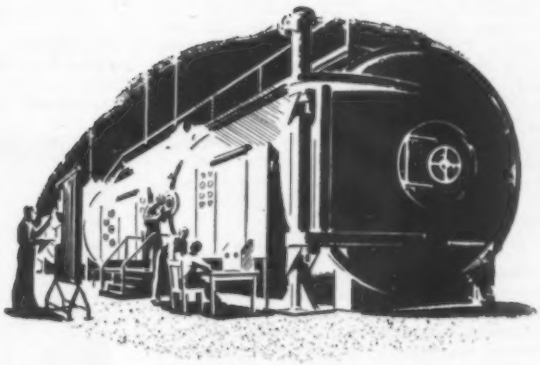
Sept. 18—Hearing on applications involving new and amended routes in the Latin America Caribbean area. (Docket 525 et al)

Oct. 2—Prehearing conference, international routes, Australia area. Tentative hearing date Feb. 1.

Oct. 16—Hearing on Pacific Coast applications, Oregon Airways, Inc. (Docket 250 et al) (Tentative)

Nov. 27—Hearing on Florida cases. (Docket 489 et al)

Will Aviation Progress Slacken in Peacetime?



One answer: the AiResearch "Stratolab." Designed and built for research on high-altitude flying, its facilities are now devoted to military projects. But after the war, this giant pressure chamber will again take on the problems of *commercial* flying.

Another: the AiResearch Wind Tunnel. This, too, will return to peacetime projects, helping solve such problems as the adaptation for tomorrow's finer airliners of the new intercooling and oil cooling systems that AiResearch has developed for planes of war.

More: AiResearch specialists who perfected automatic exit flap controls... lightweight intercoolers... anti-congealing oil coolers. From their "know-how" will come new heat transfer and pressure control systems, and AiResearch "comfort-protection" for peacetime aircraft.

ARMY E NAVY

"Where Controlled Air Does The Job"
Supercharger Aftercooling Systems • Engine Air Intercooling Systems • Automatic Exit Flap Control Systems • Temperature Control Systems • Engine Oil Cooling Systems

AiResearch
DIVISION OF
THE GARRETT CORPORATION

all the way from the home point to a foreign destination.

Rheinstrom stated Pan American had 12 sales offices in the interior of the United States and probably would open many more in the postwar period. He said the advantage which American would have in being able to generate foreign destined traffic from interior points would be offset, undoubtedly, by the fact that American's transcontinental rivals—United and TWA—probably would throw all of their foreign destined business to Pan American.

Keen Competition Seen

Henry J. Friendly, counsel for Pan American, read from testimony which Rheinstrom had given in previous cases where he appeared to be against the exclusive one-carrier operation and where he appeared to favor interchange. Rheinstrom said the international travel situation gave these two factors a different application. Friendly, likewise, suggested that if CAB approved this acquisition which would give American the North Atlantic route, it would of necessity, to balance the competition between the so-called transcontinental carriers, give international route certificates to United and TWA, either in the North Atlantic or other regions in which Pan American operated. Friendly inferred this would dissipate the argument that TWA and United would throw a considerable portion of their business to Pan American, for in many cases they too might be competitors of Pan American.

C. W. Jacob, secretary, fourth and last of American's witnesses, sponsored exhibits regarding stock ownership in American and certain data involving financial matters.

The effect of the prospective highly developed competition which AMEX would offer Pan American in the North Atlantic area when backed by the traffic generating potentialities of American's domestic system was portrayed by V. E. Chenea, vice president of Pan American Airways, and his company's first witness.

Chenea said that the New York area developed 42.96% of the total transatlantic traffic and he estimated that American Airlines, through AMEX, would carry one half of this amount. He further estimated that American would carry 56.62% of all trans-atlantic traffic, because of American's ability to control a considerable portion of the routing of passengers from the interior of the United States.

He contended that if United or TWA were successful in obtaining foreign routes, some of them in competition with Pan American, they would more likely throw their business, where possible, to a foreign flag carrier than Pan American if it was possible to do so. Answering a question of opposing counsel, Chenea said it was probable that Pan American would oppose all applications which seek to render international air transportation service in Pan American areas.

PAA Could Be 'Ruined'

Chenea said he felt that setting up traffic agreements between American domestic airlines and particular American or foreign flag international airlines would lead to a type of competition which would not only be ruinous to Pan American but would be detrimental to the U. S. position in transatlantic air transportation.

To effectively compete with American, Chenea said Pan American would have to be certificated to largely the same interior points in the U. S. During the hearing, Rheinstrom, of American, said his company would not oppose Pan American entering the domestic field on the ground it was an international carrier although he indicated American would expect Pan American to prove public convenience and necessity.

Robert G. Ferguson, assistant treasurer of Pan American, sponsored several exhibits showing American's relative superior financial position in the field of air transportation. He testified that the book value of AMEX stock would be enhanced to the extent of $7.02 per share by the proposed acquisition, that stockholders, other than American, in AMEX stood to have their share of the remaining stock increased by $795,587.

Chosen Instrument Injected

The chosen instrument theory of U. S. participation in the international postwar field of aviation was injected by W. A. Patterson, president of United Air Lines, and L. F. Hampel, economist for United.

Laying the groundwork for Patterson's appearance, Hampel sponsored studies which indicated that there was not sufficient traffic potential indicated in the postwar era that would justify putting several carriers in the North Atlantic area. He indicated that a small fleet of not more than 24 planes of the new Douglas DC-7 type could handle all of the trans-Atlantic traffic which might be developed in the first 10 years after the war.

When the purpose of the United exhibits was fully made known, Hamilton O. Hale, counsel for American, objected to their admissability on the grounds that public convenience and necessity was not an issue in this proceeding. Hale said that had been determined by the Board when it decided that competition was necessary in the North Atlantic area and gave AMEX the temporary certificate. He was joined by Leslie Craven, counsel for AMEX.

Paul W. Godehn, counsel for United, said that the Board did not decide in 1940 that a transcontinental carrier should be permitted to engage in transatlantic air transportation or own the majority of the capital stock of a company engaged in that type of service. He said the Board gave AMEX a temporary certificate and that further hearings would have to be held to determine whether it should be made permanent.

Supporting Godehn's position, Friendly said: "Looking at the matter realistically, don't we all know that if the Board authorizes American Airlines one day to spend $3,000,000 for this purpose, it is not going to determine the next day that this temporary certificate should terminate and that the carrier should not be permitted to go to some of these countries that would make its operations worthwhile."

'Tremendous Subsidy'

Examiner Wrenn permitted Hampel to continue his sponsorship of these exhibits after which Patterson took the stand and asserted that if the selling effort and promotion initiative of the domestic carriers throughout the U. S. were collectively used to support one American flag carrier, the problem of meeting foreign competition would be greatly minimized.

"In my opinion," Patterson stated "this study submitted by Mr. Hampel would prove conclusively that certificating three carriers in the North Atlantic area cannot be done without a tremendous subsidy."

"I don't see why we should be daring. I admire daring in any particular undertaking but let's not be so daring at government expense," Patterson said. To questioning of Craven, Patterson said he felt the premanency of this certificate should first be determined in order to intelligently arrive at a selling price or purchase price.

Under cross-examination by Hale, Patterson was asked if Hampel's studies indicated that there would be sufficient traffic between Hawaii and the U. S.—one of the routes requested by United. Patterson said if there was no foreign competition between Hawaii and the U. S., he felt there would be justification for two routes.

When asked whether Pan American shared his chosen instrument views, Patterson said: "Let me say this, to make it clear. I am not speaking for Mr. Trippe or anyone else but for United Air Lines and for Patterson and let's go one step further, there are absolutely no deals under cover here." Asked whether his opposition did not get down to the question of how much United would be hurt, rather than the national interest involved, Patterson stated "Yes, I think possibly United would be hurt. To what degree, I don't know." Later to another question, he said, "Our specific interest is opposition to American."

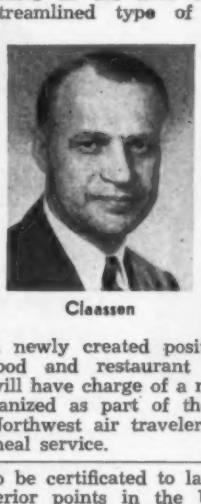
Hale vs Patterson

When Hale asked Patterson if one-company service to western points on United's system wasn't the basis of his company's theory in the Boston case, although United here opposed a one-company service between Chicago and London, Patterson said that the one company service idea could be carried too far. "As far as Chicago is concerned, you oppose the creation of what could essentially be a one-carrier service from that city to London?" Hale asked. "Via American Airlines," Patterson responded.

Alfred J. McCarthy, vice president of U. S. Lines, was the last witness. Owner of 27,000 shares of Pan American stock,

Northwest Will Serve Hot Complete Meals

Northwest Airlines intends to start serving complete hot meals on its air liners in the near future, and a new streamlined type of buffet and other equipment is being installed on its DC-3 planes.



Claassen

Restaurant facilities operated by Northwest at the Twin Cities, Fargo, Billings and Spokane also will be improved.

In line with these developments, Northwest has appointed Walter Claassen, hotel man, to fill a newly created position as director of food and restaurant service. Claassen will have charge of a new department organized as part of the program to give Northwest air travelers the new type of meal service.

U. S. Lines' opposition appeared to be on the basis that any change in the competitive situation would affect the company, both as a stockholder in Pan American and also by virtue of the fact that AMEX might be expected to forward steamship passenger business to American Export Lines—a competing steamship company. Asked by Craven whether he had been requested to testify by Pan American, McCarthy said no. U. S. Lines represents Pan American as ticket agents in 47 cities in 20 foreign countries, it was brought out by Craven's cross examination.

John M. Dickerman, counsel for the Air Line Pilots Association, asked the Board to hold up approval, if approval is to be given, until agreements on seniority and other employe-employer contractural relationships between American and AMEX could be consummated.

TWA withdrew as intervenor during the hearing. No reasons were given for the carrier's action.

Two-Way Year Round North Atlantic Line Coming, BOAC Says

The British Overseas Airways Corp., which has operated over the North Atlantic in both directions for three winters augmenting the services of the R.A.F. Transport Command, is convinced that a safe, regular, two-way commercial air service across the North Atlantic can be established after the war as soon as necessary aircraft become available.

It is the only service to have kept the air in both directions over the North Atlantic, regarded as the most difficult ocean route in the world, for three winters. B.O.A.C. technicians are satisfied that they understand all the major problems involved in regular two-way operation over this route, and the necessary solutions are being worked out on a practical basis preparatory to full-scale commercial operations.

In September, 1941, the Secretary of State for Air issued directions to B.O.A.C. for operation and maintenance of a two-way Atlantic service. This was to augment the services of the R.A.F. Ferry Command which now is part of the Transport Command, R.A.F. The new operation became known as the Return Ferry Service since its object is to return the Transport Command crews to Canada from the United Kingdom after they have delivered their bombers. In addition, official passengers and cargo are carried.

Return Ferry Service has operated through three winters, with aircraft never intended for such work, over the North Atlantic. To start the flow of bombers to England, B.O.A.C. in the early winter of 1940 sent a small party to Newfoundland to set up the organization to conquer the cold weather route. These captains for years had been flying over the deserts and jungles of Africa, over India and the Far East and their knowledge of flying in extreme cold was limited. They overcame dangerous icing conditions, congealing engine oil and hydraulic fluids, the unequal contraction of various metals and instruments which failed to function properly and the delivery of American aircraft to England began.

When the Corporation took over the responsibility for the operation of a two-way service, the only experiences with problems likely to arise during winter flying were those gained in making these delivery flights in the most favorable direction, from west to east. Temperatures of more than 40 degrees below zero are not unusual and on the westbound flight from the United Kingdom to Montreal, head winds of from 50 to 60 miles per hour are encountered over the greater part of the 3,000-mile flight. This is frequently flown non-stop.

Many competent authorities in 1941 considered a regular westbound service to be out of the question for many years, but B.O.A.C. undertook the task. Six Liberators were converted for the purpose and a large number of double flights were carried out in the winter of 1941-42. To avoid icing conditions it is necessary to fly at an altitude of 20,000 feet or over.

Under the impetus of war necessity, work has been accomplished which, in peacetime, might have taken 10 years.

Plane-Auto Service Being Discussed By Driv-Ur-Self Assn.

A combination plane-auto driv-ur-self service to provide the traveler with the fastest and most adaptable type of transportation from the beginning to the end of his journey is envisioned by Richard S. Robie, president of the American Driv-ur-self association.

Robie sees no reason why in the post-war era, planes—like autos, should not be rented and piloted by civilians.

"You wouldn't buy a grocery to get a few cans of beans," Robie stated. "It's just as silly to buy a plane for business trips or a vacation jaunt or two."

Robie expects to explain to his organization the possibilities of Flyurself on a national basis.

Because the plane goes too far and needs too much attention, Robie believes the task of providing Flyurself service is too great for one company to undertake. However he believes the American Driv-ur-self Association, with representatives in scores of American cities and key cities in Canada, would be able to provide such a service. He believes this could become a valuable feeder service for the airlines.

Under Robie's plan, a commercial traveler would contact the ADA unit's office in New York's Grand Central station in connection with a quick business trip to Manchester, N. H., for example. The ADA attendant would telephone the airline, make a seat reservation on the next plane to Boston and teletype the ADA Boston unit of the arrival time of the plane, the customer's identification and the type of rental plane required. At Boston the traveler would be met by a uniformed ADA attendant who would have the plane ready. Upon arrival in Manchester, another ADA representative would have a driv-ur-self auto waiting for the traveler's use in making his business calls.

Robie believes that with an arrangement like that in effect, what normally would be a three day round trip can be completed in one day.

He believes a small, low-speed plane should be used to get this business started.

Profit From Air Mail To Be Best In History For Post Office Dept.

The Post Office Department's air mail service will, when final figures are available, show the biggest profit in its history for the fiscal year 1944, which ended June 30, 1944.

Payments to the airlines for carrying the mail have been tentatively set at 828,401,373. Exactly how much was taken in from sale of air mail stamps is yet to be determined, but some officials estimate that the figure may exceed $100,000,000 for the lrst time in history.

Thus, the excess of revenues over direct expenditures might exceed $70,000,000. This, however, will be decreased after apportionment of Post Office costs to the air mail service. For example, in 1943, when direct payments to airlines were $23,347,914.71, the air mail service's share of running the Post Office was $21,115,293.13.

If apportionment were made in the same general manner in 1944, the final profit of the Post Office, assuming revenues of $100,000,000, would be about $45,000,000.

Some indication of air mail's growth can be seen in the fact that in fiscal 1942, pound-miles of service totalled 31,404,275,960; in 1943, 56,492,340,380, an increase of 79.89%, and in 1944, 85,802,866,010, an increase of 51.88% over 1943.

National May Inaugurate Jacksonville-N. Y. Route In September, Baker Says

G. T. Baker, president of National Airlines, reports that he expects to inaugurate service on the newly-authorized Jacksonville-New York route early in September. Accompanied by Harry S. Parker, Jr., vice president-traffic, Baker was in New York last week completing arrangements for operational and traffic facilities. Two 14-passenger Lockheed Lodestars will be used until larger equipment is available.

Counter space has been obtained in the mid-town Airlines Terminal building in the section presently occupied by U. S. customs. At LaGuardia Airport, National will use space at the center counter now occupied by various concessions. Northeast Airlines will also use the center space, and a new baggage well is being built near the TWA counters to serve the airlines in the center. National has also obtained the use of the small hangar originally built for civil aircraft and the CAA, later used by the Academy of Aeronautics, near the American Export Airlines base.

Baker said the Lodestars would inaugurate a four-hour and fifty-minute run between Jacksonville and New York with one stop at Charleston, S. C. Airport facilities at other cities on the route are not yet available, he said. At Jacksonville the route links in with National's routes through Florida and to New Orleans.

Perier Favors Traffic Restrictions On U. S. Lines in Western Europe

ALMOST ALL PEACETIME air traffic in Western Europe is international, with purely domestic operations being almost non-existent, and U. S. air carriers operating in that region should not be allowed unrestricted traffic rights, according to Gilbert Perier, president of SABENA, Belgian airline.

Perier, who has been in the U. S. for some time, points out that many countries in Western Europe are so small that domestic operations are rare. SABENA, for example, does not engage in cabotage (operation between two points in the same country) because it serves only one Belgian city—Brussels. Its normal peacetime lines are all to other countries or to the Belgian Congo.

Perier

The U. S. Perier points out, would not permit foreign airlines to serve local traffic in the U. S. Western Europe should be considered as a whole, and therefore U. S. airlines should not be allowed to stop at London and pick up passengers for Brussels, Amsterdam, Paris and other points within a few hundred miles of London.

However, Perier does believe that a U. S. line should be able to pick up a passenger at London bound for Warsaw or Istanbul or points 1,000 to 1,500 miles away. Of course, a U. S. airline could carry a passenger all the way from New York to Paris via London, even permitting a stop-over if it was on a through ticket, he says.

Where there is no local operator in a country, all airlines should share in that traffic, Perier adds.

Urges Freedom of Transit

"All governments agree on freedom of transit, or innocent passage. It is much more important than anything else. It is absolutely necessary that we have an international agreement on this for everybody—not only for aviation but for all the peoples of the world. We must have freedom of transit without having to ask specific permission through diplomatic channels for authorization to pass over a country. We must also have a unified taxation for domestic and foreign airlines alike—airport landing fees, fuel taxes and similar service charges."

Forbidden areas, except for certain military airports and special restricted zones, should be eliminated, he believes.

Perier is in favor of a permanent technical body or conference along the lines suggested by Edward P. Warner, vice chairman of the Civil Aeronautics Board. This body would set airworthiness standards, work out uniform communications and meteoroligical services, etc. It would be an international conference on the technical level.

SABENA is interested in flying to South America and possibly to the U. S., Perier states. However, he does not believe there will be room for all the intercontinental operators who wish to enter the field. Between New York and London there may be a need for very frequent service, but on other routes competition may prove disastrous. For this reason, Perier speaks favorably of a joint airline—one line in which several countries would participate. This same general scheme worked in Europe before the war and should be feasible for intercontinental operations, he says.

SABENA is 50% privately-owned and 50% government-owned. Of the 12 directors, eight are private businessmen and four are government officials. The latter four, however, have a veto power—which has never been used. The company was founded, under another name, in 1919, and opened Brussels-Paris service on Feb. 2 of that year. Before the war, 25 planes were operated—Douglas DC-3s, Savoia-Marchettis and Junkers JU52s.

Rail System Destroyed

One of SABENA's most important services was that connecting Brussels with the Belgian Congo, a journey which took 30 to 35 days by boat but which was covered in two and a half days by plane. Important routes inside the Congo are still in operation, 15 planes being used, of which nine are Lockheeds and six Junkers. All mail travels by air on the Congo routes.

Contrary to the situation in some other European countries, Belgian steamship interests do not wish to fly airplanes, Perier explains.

Perier believes that all first-class mail will go by air in postwar Europe, not only because it is the fastest means of transportation but because the European railroad system will have been virtually destroyed and a tremendous reconstruction job will be necessary.

In the immediate postwar period, SABENA will use U. S. transport planes, but beyond that period Perier makes no commitments. The company will buy from the country which is producing the best, most efficient equipment, he explains.

CAB Urged to Postpone New Route Decisions So Servicemen Get A Share

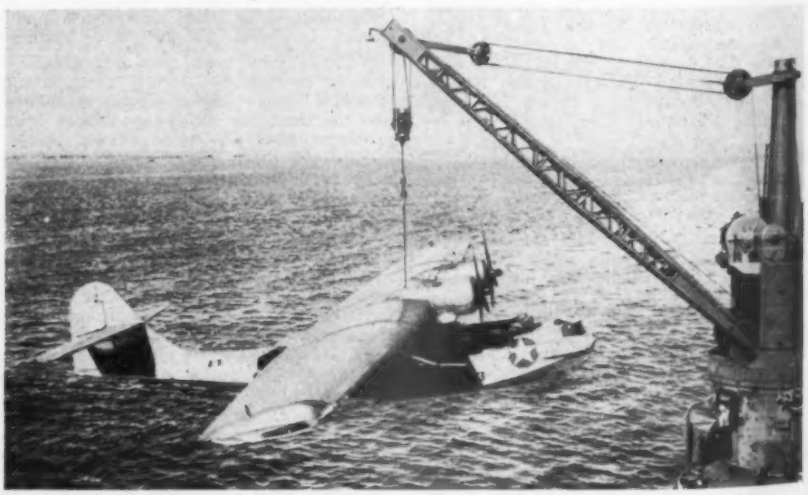
A young officer in the Army Air Forces has suggested to the Civil Aeronautics Board that it defer until at least six months after the termination of the war all action with reference to pending route applications so that millions of citizens in the armed forces will not be foreclosed from the opportunities of entering the air transportation business in the postwar era.

The officer, 1st Lieut. Joel McCray, stationed on foreign soil, mentioned specifically the application of Jack Neal and Son wherein a large number of routes were asked in the San Antonio area.

McCray raised the doubt that Neal and Son have sufficient and adequate equipment and expressed the view that proper type planes will not be available until after the war. He added that it was the purpose of Neal and Son to acquire a priority and monopolistic advantage in the field of transportation which will enable them to protect and prevent the granting of similar application to him and other members of the armed forces when the war is over and they return to civilian life. McCray stated he intended to file an application for routes in the same general area covered by the Neal application.

If the Board refuses to grant his petition, McCray then asks that if the Board grants Neal and Son a certificate it be a temporary one.

The Superintendent of Public Documents has announced publication of a loose-leaf manual on Renegotiation Regulations issued by the War Contracts Price Adjustment Board.



Service Station at Sea—The Navy's seaplane tenders might well be termed floating service stations. Photo shows one of them hoisting a Consolidated Catalina PBY aboard as though it were a toy. The tender has facilities for complete repair work.

HELLCATS on a "flat top." Sinclair produces enough 100-octane aviation gasoline to fuel 3000 of these planes daily.

SINCLAIR
AVIATION OILS
LUBRICATE 3900 FIGHTERS DAILY

FIGHTERS can't fly . . . BOMBERS can't lay their eggs without oil. Sinclair produces sufficient aircraft engine oil to lubricate 3900 fighters or 1300 four-engine bombers on daily flights from England to Berlin. Sinclair heavy duty lubricants help keep thousands of tanks, jeeps, and trucks in battle on all Fronts.

Fighter Pilot

SINCLAIR DEALERS have lubricants to help win *your war* against wear. Have your car serviced regularly by your Sinclair Dealer.

AMERICAN AIRLINES, greatest air transportation company, uses Sinclair Pennsylvania Motor Oil exclusively.

Airline Commentary

Now here's a subject that may arouse a lot of controversy and may even result in getting some people mad at us, but we're going to discuss it nevertheless, because it's for the good of the industry . . . It boils down to this: Why do some pilots disregard the passengers' comfort in some of their maneuvers? . . . We don't pretend to be a technician, but we and some other ordinary passengers to whom we've talked would like to know why some pilots whom we've ridden with recently only use about one quarter of the runway to get the plane into the air, and then immediately start to climb like a frightened bird—so much so that it almost seems that the plane is near stalling . . . Or, as soon as they leave the runway they immediately bank sharply . . . We were coming into a mid-west airport the other day—not in a big city, but in a town where the airport is located in the middle of miles and miles of flat country—and for some reason the pilot had to circle the field before landing . . . Instead of taking advantage of the obstruction-free, flat country and making a relatively flat turn, he practically stood the ship up on one wing and buzzed around there in a hurry . . . This maneuver was uncalled for, and caused several caustic comments in the passenger cabin . . . Several times recently we've noticed signs of uneasiness among passengers—and this isn't good . . . And right here we'd like to give credit where credit is due and say that we were certainly favorably impressed with Northwest Airlines' landing and take-off procedures on a recent trip . . . The NWA pilots seem to work on the theory that if you've got 5,000 feet of runway, you might as well use a goodly portion of it . . . The result is a nice gradual take-off—and there are no sharp banks or turns . . . We enjoyed the ride very much and our hat is off to NWA . . . Now don't get the idea that these comments apply to every airline except NWA, or to all the pilots on all the airlines, because it isn't so . . . Pilots as a whole are professional men doing a professional job, but this minority is giving some airlines a black eye . . . We always brag to our non-flying friends that air transportation is the most comfortable method of travel . . . Don't make us have to amend this, fellows . . .

●

Here is another letter from our editor, Wayne W. Parrish, which contains one million dollars worth ($1,000,000) of free and unsolicited publicity for TWA . . . But it's publicity that is well deserved . . . We've been through the shops of which the editor speaks and—but let's let the letter speak for itself:

Dear Eric:

A few weeks ago I was out in Kansas City doing a little speech-making for the Chamber of Commerce, and during the visit I went through TWA's shops. It's been several years since I went through them, and was I pleasantly surprised at the job John Collings has done in the meantime. For my money TWA has the model instrument, maintenance and overhaul shops of the world. Everything is spic and span, everything is orderly, everything is organized. It's really a spectacle in itself. I've gone through a lot of shops both in this country and others, but I've never seen anything to compare with TWA's layout in KC.

Collings has one of those strange philosophies that if you are going to keep people happy in their work, you should provide proper surroundings. A workshop should be as clean as a home. It sounds so simple and logical, and yet how few companies consider the workers' surroundings! I can see that Collings' ideas are paying out in a big way—not only in morale but also in efficiency. TWA is a pleasant place to work.

Best of all are the exhibits in each department of cut-through models of engines, instruments and various types of equipment. The workers know what they're doing. The exhibits are among the best I've ever seen and the department heads are justifiably proud of them. They beam when they show them off to visitors.

We recommend that all airlines take a peep at TWA's show at the municipal airport. A little cost in paint and janitor service, and good lighting systems, will do a lot to help morale in the whole business.

Last time I was out there Jack Frye had the nice corner office overlooking the field. With the executive offices now located in downtown KC, Collings has taken over the corner. He fits it to a "t". He's one of the ablest and pleasantest executives in the business. He's one guy I could work for.

W. W. P.

●

We understand that there's an airline president who has flown the B-29 Superfortress . . . He's Bob Six, president of Continental Air Lines . . . Bob recently returned to CAL after lengthy service with the Air Transport Command as a lieutenant colonel . . . CAL is modifying B-29s and, although we don't know for sure, we imagine that Bob took a turn at the controls of one from the mod center . . .

Eric Bramley

Route Applicationns Filed With CAB

Western Washington Airways

Ben P. Barry, doing business as Western Washington Airways, 816 Washington Bldg., Tacoma 2, Wash., asked for a certificate to engage in air transportation of mail, persons and property between the following points: Bremerton, Port Townsend, Port Angeles; Seattle, Everett, Mt. Vernon and Bellingham; Seattle, Tacoma, Olympia, Chehalis, Toledo, Kelso and Vancouver; Olympia, Shelton, Montesano, Aberdeen and Raymond. Applicant proposes to use either Cessna Airmaster or Beechcraft, Model 18-S. (Docket 1503)

Western States Aviation Co.

Howard Brown and T. N. Brown, doing business as Western States Aviation Co., Reno, Nev., have filed application with CAB (Docket 1509) for mail-passenger property service over the following routes: (1) Reno to Burbank, Calif., via Carson City, Nev., and Bishop, Manzanar and Mojave, Calif.; (2) Reno to Las Vegas, Nev., via Hawthorne and Tonopah, Nev., and (3) Reno to Ely via Lovelock and Winnemucca, Nev. The applicants, who now own and operate a flying school at United Air Lines' airport at Reno, propose to use twin-engined Beechcraft 18-S aircraft, or a similar type. Such planes are not now owned by the applicants.

North Central Airlines, Inc.

North Central Airlines Inc., Chicago, Ill., has filed an amended application, changing certain routes applied for. Company now asks (1) Grand Forks, N. D., to Sault Ste. Marie, Mich., via Bemidji, Hibbing, Duluth, Ashland, Ironwood and Marquette, (2) Fargo-Duluth via Detroit Lakes, Bemidji and Hibbing, (3) Des Moines-Grand Forks via Mason City, Albert Lea, Minneapolis-St. Paul, St. Cloud, Brainerd and Bemidji, (3) Minneapolis-St. Paul to Sioux Falls via Mankato, and Worthington, (5) Sioux Falls-Chicago via Mason City, Waterloo, Dubuque and Rockford, (6) Minneapolis-St. Paul to Sault Ste. Marie via Eau Claire, Wausau, Marinette and Escanaba, (7) Duluth-Chicago via Hawyard, Rice Lake, Eau Claire, Portage and Janesville, (8) Duluth-Chicago via Ashland, Ironwood, Minocqua, Rhinelander, Wausau, Oshkosh and Milwaukee, (9) Marquette-Chicago via Iron Mountain, Marinette, Green Bay, Sheyboygan and Milwaukee, and (10) Sault Ste. Marie-Chicago via Escanaba, Marinette, Sheyboygan and Milwaukee. (Docket 1490)

Capitol Transfer and Storage Co.

Capitol Transfer and Storage Co., 1006 Virginia St., Charleston, W. Va., has filed application with CAB for permission to conduct non-scheduled transportation of property, including general commodities, household goods and office furniture, by air in cargo planes between airports in all points and places in West Virginia and airports in all points and places in the U. S.; also between airports in all points and places in all states of continental U. S. The company now operates a motor truck line, and the air service, which it does not wish to start until after the war, would be supplementary to this and will be available to applicant's shippers who

Capsules OF LIFE OR DEATH!

Valves—that's what these are—and their innocent appearance serves only to conceal their importance. For these valves are to modern warfare what the famous "horseshoe nail" (for the want of which the battle was lost!) stood for in the simpler fighting days of two hundred years ago. Designed for the control of oil, gas and other fluids, they are in active wartime service in aircraft of all types on every fighting front.

The four Weatherhead plants have long been fully engaged in making vital parts for the nation's war machines at the rate of more than a million a day—and are prepared to make the same gigantic contribution to the peacetime needs of the nation!

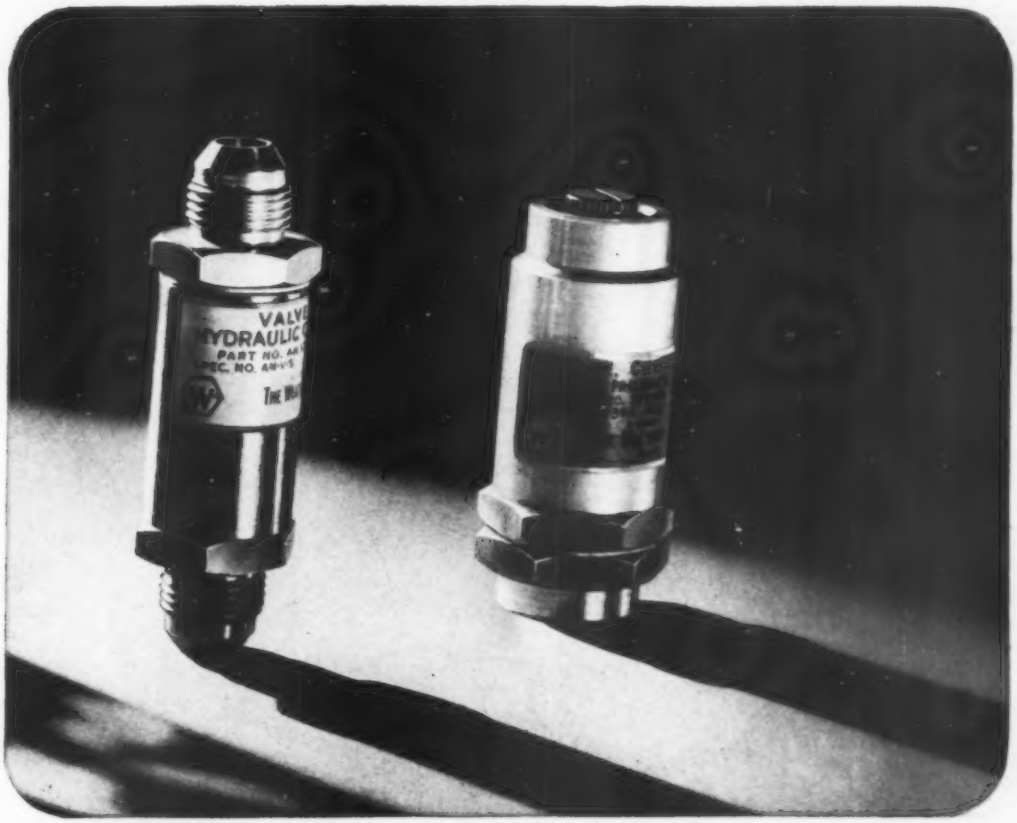
Look Ahead with

Weatherhead

THE WEATHERHEAD COMPANY, CLEVELAND, OHIO

Manufacturers of vital parts for the automotive, aviation, refrigeration and other key industries.

Plants: Cleveland, Columbia City, Ind., Los Angeles
Canada—St. Thomas, Ontario

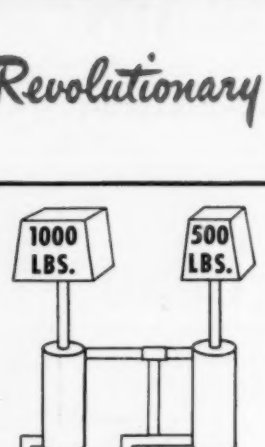


FREE: *Write on company letterhead for "Seeds of Industry"—a history of The Weatherhead Company, its many facilities and diversified products.*

Altair HYDRAULIC

FLOW=EQUALIZER

Revolutionary development meters fluid in either direction



Irrespective of wide differentials in loads or rate of flow the Altair Equalizer synchronizes the action in *both* directions. Although the cylinder on the left is doing twice the work of the other – both cylinders travel at the same speed during their entire strokes.

Here – for the first time – hydraulic fluid is accurately metered in either direction from one line into two branch lines. Differentials in restriction, loads or friction are compensated for, even in pronounced unbalanced conditions.

The installation is unique. It is only necessary to install the Altair Flow Equalizer in place of the "T" in the pressure *or* return line to accomplish full synchronization of the hydraulic actuating cylinders or motors.

The Altair Flow Equalizer incorporates a balanced metering piston, and does not depend on outside mechanical action as the proportioning agent. An exclusive variable orifice controls equalization over a wide range of flows – the ½" tube size shown handles flows of from 2 GPM to 8 GPM. The unit weighs only 2.5 pounds.

This Equalizer has many applications. It has already been specified on five airplanes to equalize wing flaps, bomb doors, cargo doors and landing gear. Our engineering department is available to assist in working out other applications with you. Write for complete data. Pacific Division, Bendix Aviation Corporation, North Hollywood, California. Sales Engineering Offices in New York City and Dayton.

Pacific Division
Bendix Aviation Corporation
NORTH HOLLYWOOD, CALIF.

desire fast service. The company does not now own any aircraft. (Docket 1511)

Mid-Continent Airlines

Mid-Continent Airlines, in an amendment to an application, has asked that Route 48 (Twin Cities-Kansas City, Des Moines-St. Louis) be extended (1) from Rochester to the co-terminals Milwaukee and Chicago via (a) La Crosse, Madison and Milwaukee, (b) via Waterloo, Cedar Rapids, Dubuque and Rockford, and (2) from Des Moines to the co-terminals Milwaukee and Chicago via Cedar Rapids, Dubuque and Rockford. The company's original application asked Twin Cities-Milwaukee-Chicago and Twin Cities-Rochester Dubuque Rockford Chicago routes. (Docket 884)

Aero-Transportes S. A.

Aero-Transportes S. A., Mexican airline, has asked CAB for permission to land temporarily at Brownsville, Tex., pending repairs and improvements to the airport at Matamoros, Mexico, and to land at Eagle Pass, Tex., pending repairs and improvements to the airport at Piedras Negras, Mexico. Permission is asked for a period of 90 days.

The Mexican company points out that the Matamoros and Piedras Negras airports at present do not permit landing of heavy equipment, "such as the Boeing 247-D, which the applicant has recently acquired."

Arthur G. Woodley

CAB has been asked to approve transfer of Arthur G. Woodley's certificate of convenience and necessity to Woodley Airways, a partnership. Woodley operates air service in Alaska. The partnership is composed of Woodley, Letha M. Woodley, his wife, and Mary E. Diamond, an employe of Woodley's for 10 years. Woodley has sold each of the partners a one-quarter interest in his business. (Docket 1510)

Automatic Air Mail, Inc.

Automatic Air Mail Inc. Lost Nation, Iowa, has amended its air mail pickup application to include a route from Moline, Ill., to Omaha, Neb., via 38 intermediate points, and Omaha-Moline via 28 points. (Docket 415)

Southwest Airways

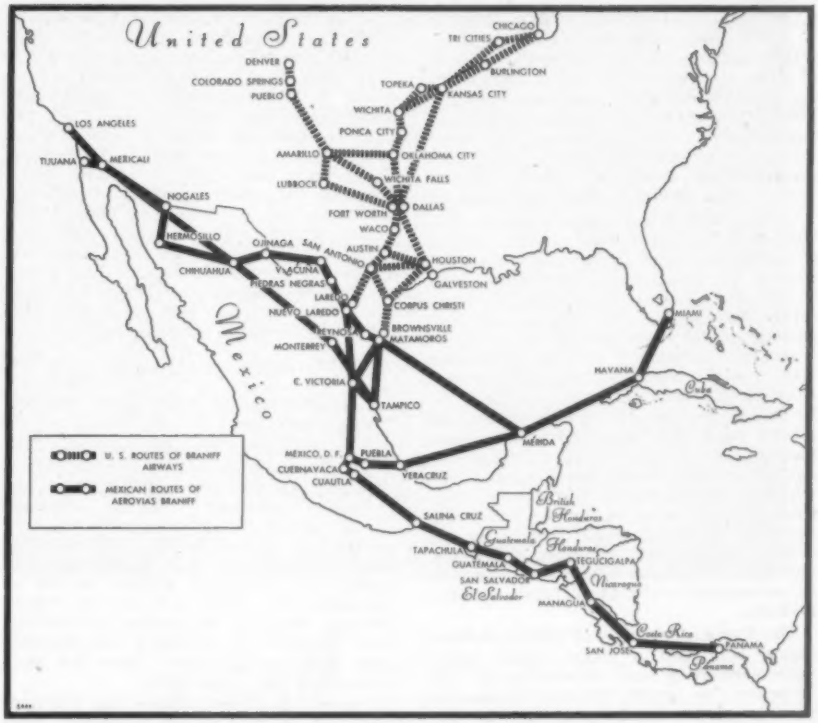
Southwest Airlines has amended its application (Docket 1433) to change its name to New Mexico Airlines.

Yerex Gets Franchise Mexico City-to-Panama

Lowell Yerex, founder and head of the TACA airline system in Central America, has obtained a 20-year franchise to operate an international airline service into Mexico City from El Salvador. Yerex will set up a non-operating agency in Mexico City for traffic purposes. Thrice-weekly service will be started Sept. 24, thus providing a through service on the TACA system from Mexico City to the Republic of Panama.

Several years ago TACA was ousted from Guatemala and the TACA routes taken over by Aerovias de Guatemala, a new company. With the recent change in the Guatemalan political situation, however, Yerex believes TACA may again be recognized in that country, at least for through international services.

Aerovias Braniff Granted Routes In Mexico Totaling 3,067 Miles



INTERNATIONAL air routes totaling 3,067 miles, touching two points in the United States, Miami and Los Angeles, and a route to Panama by way of the capitals of the countries of Central America, have been granted Aerovias Braniff, S. A., by General Maximino Avila Camacho, Secretary of Communications and Public Works for Mexico, T. E. Braniff, president of both Aerovias Braniff, S. A., and Braniff Airways, Inc., announced in Dallas recently. The route to Panama is first Mexican authorization extending a Mexican flag airline through the countries of Central America, and is an extension of Aerovias Braniff's previously authorized route between Mexico City and Tapachula. Miami will be served by Aerovias Braniff by way of Havana, Cuba, which is an extension of its existing route from Mexico City through Puebla and Vera Cruz to Merida, and Los Angeles is included on a new permit authorizing a route from Monterrey with stops at Chihuahua and Mexicali.

The international extensions add 3,067 miles to the 4,661 miles of route which Aerovias Braniff was previously granted in Mexico, making a total of 7,728 miles on the combined domestic and foreign routes. Subject to the consent of the interested governments, the company will serve Guatemala City, Guatemala, San Salvador, El Salvador, Tegucigalpa, Honduras, Managua, Nicaragua, San Jose, Costa Rica en route to the southern terminal at Panama.

Attorneys for Aerovias Braniff in Mexico City are now preparing for filing with the CAB in Washington an application for foreign air carrier permits from the U. S., allowing the new Mexican airline company to land at Los Angeles and Miami for passenger, mail and air express traffic.

Aerovias Braniff, S. A. was organized last fall by T. E. Braniff, and Braniff Airways now has pending before the CAB an application for the right to acquire the Mexican company. The application is scheduled for hearing on Sept. 5.

Prior to receipt of permits to operate internationally, Aerovias Braniff had been granted 4,661 miles of Mexican domestic routes. These routes authorized service between: Nuevo Laredo (a southern terminal of Braniff), Ciudad Victoria and Mexico City; Matamoros (a border point across the Rio Grande from Braniff's Brownsville, Tex. terminal), Ciudad Victoria and Mexico City; Tijuana, Mexicali, Nogales, Hermosillo, Chihuahua, Ojinaga, Villa Acuna, Piedras Negras, Nuevo Laredo, Reynosa, Matamoros, and Merida; Matamoros, Tampico; and Tampico to Monterrey. Including the new permits Aerovias Braniff's authorized routes extend south from Los Angeles, the northern Mexican land border, and Miami to Panama serving a total of 31 cities, 29 of which are in Latin America.

Aerovias Braniff, S. A. was organized in Mexico by T. E. Braniff for the purpose of operating Mexican domestic and international routes responsive to the needs of Mexico for its postwar development of commercial scheduled air transport operations. Officers of Aerovias Braniff are T. E. Braniff, president; Jose Navarro E., vice president; Antonio Correa, vice president; C. G. Adams, treasurer, Alberto Sanchez L., assistant treasurer; and Jess Dalton, secretary.

Clear Language Urged in Future International Air Agreements

FUTURE INTERNATIONAL aviation agreements must be written in clear, understandable terms, indicating clearly what the parties have in mind and avoiding "the ambiguities and uncertainties which arose from the language of some of the provisions of international air navigation agreements adopted in the past," says Stephen Latchford, adviser on air law, aviation division, State Department.

"Apparently a great many persons believe that an agreement by the various governments upon an international convention in which each contracting state would accord to civil aircraft of other contracting states the right of innocent passage would establish the authority of a commercial airline of any contracting state to make flights in transit across territory of the other contracting states . . . However, in view of the interpretation placed upon the term 'right of innocent passage' in previous international air navigation agreements, the question arises whether, if the use of the term is continued, there could be any certainty that the right of transit would thereby be obtained for regular or scheduled international air transport services," he says in an article in the Department of State *Bulletin*.

The Paris convention of 1919, Latchford states, contained a clause under which each contracting state undertakes, in time of peace, "to accord freedom of innocent passage above its territory to the aircraft of the other contracting states" provided conditions of the convention are observed. However, another paragraph of the convention stated that establishment of international airways would be subject to the consent of the state or states flown over.

Translation Difficulty

Great difficulty arose in connection with this latter paragraph "in finding a satisfactory and accurate English translation of the French expression 'voies internationales de navigation aerienne,'" Latchford states. "It seems that in the discussions in connection with the drafting of the convention, the French term quoted was translated by such expressions as 'routes' and 'lines.' Eventually, however, the term 'international airways' was adopted as the English equivalent of the French term mentioned above. Apparently the real intention of the drafters of the Paris convention was never made entirely clear. In any event the provision of Article 15 stating that the establishment of international airways would be subject to the consent of the states flown over was . . . interpreted in practice to mean that no regular or scheduled airline of any contracting state could be operated into or in transit across the territory of another contracting state with or without landing except by prior permission of the state whose territory would be flown over."

Likewise, he points out, the "innocent passage" clause was interpreted as applying only to civil aircraft making special flights, such as tourist flights. Eventually the interpretation of the "international airways" clause became so well established that the majority of delegates were unwilling to make any changes.

"In the light of past experience it would be desirable either to omit such terms as 'liberty of passage' or 'the right of innocent passage' from future international air navigation agreements, or, if they are used at all, to define them so that their meaning would not be left in doubt," Latchford says. "The writer would prefer to cast out such expressions root and branch from air navigation agreements and to have the agreements indicate in clear and unmistakable language just what air navigation rights they would accord."

Advocates Clarity

In conclusion, Latchford made the following suggestions:

"1. Abolishment of such terms as 'liberty of passage' and 'the right of innocent passage,' and the substitution of appropriate language. Such language should definitely indicate whether civil aircraft of a contracting state, making special flights and not operating on a regular or scheduled service, would be permitted to enter and fly in transit through territory of another contracting state without the necessity of obtaining prior flight authorization from the government of the latter state.

"2. Employment of appropriate language which would make it absolutely clear whether a definite right of transit is to be accorded for scheduled air transport operations. If such definite right of transit is to be accorded, it should, furthermore, be made clear that this right of transit would be distinct from and in addition to any commercial rights of entry that may be agreed upon at the same time.

"The right of transit mentioned in the foregoing paragraph relates to such right as might be accorded for scheduled airlines to make non-stop flights across the territory of a contracting state, with the right to land at public airports for technical purposes such as refueling and repairs. Such transit would not, however, include the right to take on and discharge passengers and cargo in the territory flown over. Transit with the right to take on and discharge passengers and cargo in the country through which a flight is made would presumably come under the heading of commercial entry.

"In referring to the wording of air-navigation agreements concluded in the past there is no intention of offering any criticism as to draftsmanship. The negotiations at the time undoubtedly adopted such terms as appeared to be called for in the light of all surrounding circumstances and the precedents that had been established up to that time. Experience gained in the practical application of all these agreements shows the necessity for the use of clarifying language."

Smiles for the Future—These two pilots for the Royal Dutch Netherlands Indies Airline, Capt. Jan Rauffaer and Capt. Richard A. P. van Rees, have just finished a special course in navigation given in Washington by TWA. They were in Surabaya, Dutch East Indies, before it was overrun by the Japs. They later evacuated important personnel from several points in the Indies. They now are awaiting assignment from KIM.

Merry-Go-Round

Blackout, the temporary loss of perception by pilots during violent flight maneuvers, is being studied in Wright Field's Aero-Medical Laboratory through use of a large, two-arm merry-go-round called the centrifuge. The device has a cab or cockpit at the end of each arm. It is spun by a 250 hp electric motor. In the center of the revolving structure is a seat for an observer. The test subject—always a volunteer—sits in one of the cabs, and the observer sits facing him. When the centrifuge is started, the cab swings outward like a pail on the end of a rope, putting the subject in a position parallel to the plane of the circle his body describes, head toward center. Thus the motion duplicates exactly the force of an airplane pulling out of a dive—the maneuver which causes blackout.

Delta Recommended For Kansas City Line

A recommendation that Delta Air Corp. be permitted to extend its New Orleans-Shreveport, La., route to Kansas City, via Texarkana, Fort Smith, Ark., and Joplin, Mo., was made Aug. 7 by CAB Examiner F. A. Law.

Law also recommended that Mid-Continent Airlines be permitted to include Joplin and Bartlesville, Okla., as intermediate points between Kansas City and Tulsa on its present route, and that Continental Air Lines be authorized to include Bartlesville as an intermediate point between Wichita and Tulsa.

He recommended that the application of National Airlines for additional service in the area be denied.

Official U. S. Navy Photo

WHEN a Grumman Hellcat smacks the deck, tires take the impact first. That's where lighter, stronger U.S. Royal Airplane Tires show their fighting strength. They're light—to cut down every ounce of unnecessary weight. They're strong—to stand up under landings on pitching carrier decks.

And on the Douglas Dauntless Dive Bomber, U.S. Royals carry the heavy bomb load, help make take-offs and landings safer.

For every kind of service—for nose wheels, tail wheels, landing wheels and beaching gear, there is a U.S. Royal Airplane Tire and Tube engineered to do the job—lighter, stronger tires to carry the heavier loads of today's fighting planes. They are fighting tires.

Fighting Tires

Official U. S. Navy Photo

SERVING THROUGH SCIENCE (US) **TO SPEED THE VICTORY**

UNITED STATES RUBBER COMPANY

1230 Sixth Avenue · Rockefeller Center · New York 20, N. Y.

Difference Between CAA and CAB Activities Explained by Leasure

THERE ARE MANY persons, some of them closely connected with aviation, who are puzzled over that agency with a dual personality—the Civil Aeronautics Authority. What is the difference between the Civil Aeronautics Board and the Civil Aeronautics Administration?

C. Edward Leasure, chief CAB examiner, explained the dual set-up in an interesting and effective way recently in a speech before the Airline Traffic Conference in Denver at a luncheon meeting sponsored by the Denver Chamber of Commerce and the Denver chapter of the National Aeronautic Association.

The relationship between the two agencies, Leasure said, has been generally misunderstood since the effective date of the President's Reorganization Plan of 1940.

"Generally speaking, the Civil Aeronautics Board performs quasi judicial and quasi legislative functions while the Civil Aeronautics Administrator performs functions which are executive and administrative," Leasure stated.

Shares Safety Duties

"The Board has complete charge of the economic regulation of air carriers and the Administrator has no function to perform in this connection. The Board's economic regulatory powers include the issuance of certificates of public convenience and necessity for new service, the establishment of passenger, property, and mail rates, the approval or disapproval of consolidations, mergers, acquisitions of control, and various types of interlocking relationships, and the approval or disapproval of contracts involving air carriers or foreign air carriers.

"The Board and the Administrator share the responsibility for safety regulation. The Board prescribes all safety regulations, including air traffic rules, standards of competence for pilots, mechanics, and other airmen, and standards of quality and airworthiness of aircraft and other aeronautical equipment. The Administrator, on the other hand, administers and enforces these regulations and issues the various types of safety certificates which are provided for in the Civil Aeronautics Act. In issuing these certificates he is governed by the standards prescribed by the Civil Aeronautics Board. The Board also is responsible for the suspension and revocation of the safety certificates and such action is taken usually after a complaint has been filed with the Board by the Administrator.

"The other method of enforcement provided for in the Act is the imposition of civil penalties. The civil penalty machinery is administered by the Administrator. In addition to its work in connection with the economic and safety regulation, the Board is solely responsible for investigating accidents involving aircraft and making reports as to the probable causes of such accidents," Leasure explained.

Leasure commented at some length on the Board's recent report on the Local-Feeder-Pickup investigation, wherein it indicated that expansion in the local field of transportation would be accomplished through the medium of the temporary certificate.

"In its opinion the Board emphasized a fact which is frequently overlooked by aviation enthusiasts: namely, that in going into the small-city, short-haul market the plane will be faced with the most intense kind of competition from the railroads, bus companies, and the private auto, and it will be facing this competition with its principal selling point, speed, greatly diminished in value. Added to this handicap is the fact that the passenger fare by plane probably will continue to be much higher than that which the railroads and the motor carriers will charge. The Board pointed out that in the face of these handicaps it would be of prime importance that prospective local and feeder air carriers provide means of operating such services on a very economical basis," he stated.

Leasure quoted that portion of the Board's report which referred to the Board's desire to meet the challenge which exists by translating into results of experience what are now plans and estimates.

"The Board decided," Leasure stated, "that authorization of so-called local services should be carried out under certain safeguards. It proposes to limit authorizations to temporary periods, and to confine them to operations which show a justifiable expectation of success at a reasonable cost to the government. That a period of three years would probably be adopted as being sufficient to judge the potentialities of such services was indicated."

Leasure also mentioned that phase of the Board's report which rejected the examiners' recommendation that air mail pay be limited to a maximum figure of 25 cents per mile. He pointed out that the Board, while approving the purpose of the recommendation, believes such a limitation should be provided by appropriate legislation.

Movement of Produce By Air Discussed at Two Cargo Meetings

Postwar movement of fruits and vegetables by air was discussed at meetings in various parts of the country recently. In Detroit, a series of taste tests were conducted at Wayne University as part of a research program being conducted by the University, United Air Lines, and the Great Atlantic and Pacific Tea Co. In Kansas City, members of the Air Transport Association's air cargo division heard W. T. Ashby of Douglas Aircraft Company's market research department, predict that produce movements by air, after the war, may provide the nation's airlines with profits many times those realized from all commercial sources in the peak years 1939 to 1941.

A "tasting panel" of 38 persons, including housewives, home economists, and produce, merchandising, and transportation experts, functioned in Detroit under the direction of Dr. Spencer A. Larsen, Wayne University's director of air cargo research. They sampled figs, boysenberries, plums, tomatoes, apricots, nectarines, and strawberries. The fruits, picked 40 hours previously in California and flown to Detroit, stood up "exceptionally well" in spite of average outside temperatures of 100 degrees, while on the ground in California, and 36 degrees at high altitudes, according to J. Prescott Blount, United's manager of perishable traffic. Because the taste tests are part of what is planned to be a year's study, the results cannot yet be released, he said.

Taste Testers— Representatives of three organizations conducting a research program on postwar produce movement by air are shown in action in Detroit. Left to right—Dr. Spencer A. Larsen, director of air cargo research at Wayne University; Earl R. French, national marketing director of produce for the Great Atlantic and Pacific Tea Co.; and C. C. Thompson, vice president-public relations, United Air Lines.

In Kansas City, Ashby predicted that at presently attainable ton-mile rates, a postwar perishable movement sufficient to produce about $19,000,000 of gross revenue is possible. He based his conclusions on studies of 25 of the most likely fruits and vegetables in six growing areas.

A new air cargo research project has been founded by Col. Edward S. Evans, Detroit industrialist who initiated the Wayne University project in 1942. Called the Edward S. Evans Transportation Research, the foundation is studying the possibility of reciprocal air-movement of perishables and manufactured goods, or flying highly perishable products to principal consuming markets and bringing back manufactured goods of high potential time value. The Evans Research also is investigating the extent to which surplus war transport planes can be converted to practical peacetime use.

13 UAL Pilots in Action

United Air Lines pointed last week to reports from the Invasion front that 13 of its former pilots "are among the paratroop hauling, glider towing, air evacuation pilots of the Ninth Troop Carrier Command." A story, datelined "A Ninth Air Force Troop Carrier Base, England," said:

"Anybody looking through the roster of officers in the Ninth Troop Carrier Command might get the impression that this command is composed of former United Air Line pilots, there being 13 of them among the paratroop hauling, glider towing, air evacuation pilots of Brig. Gen. Paul L. Williams' command."

ALPA President Views Postwar 'Inflationary Thinking' With Alarm

THE Air Line Pilots Association is taking a conservative position with regard to rapid expansion of the air transport industry and especially in opening up many feeder airlines, David L. Behncke, president of ALPA, states in reply to questions submitted by *American Aviation*. He indicates ALPA will fight vigorously any effort to lower salary or safety standards in the opening of new routes, and does not feel that short-haul services offer the great openings which some observers have predicted.

His statement follows:

"Whenever there is a disruption in any business such as caused by the war, there are always a number of questions to be answered. I believe that the whole tenor of what is going to happen or not going to happen in postwar airline aviation hinges primarily on the extent that airline transportation will be permitted to expand.

"What I mean is this: Is the government going to expand our civil airline network beyond a point of what the traffic can bear, or is it going to be held within such limitations? Frankly, I believe the latter is the proper one to follow.

"Assuming that we do permit it to go beyond the point of what the traffic will bear, how are we going to do this? Is the government going to keep these companies in business or will it be a matter of doing it, using as a basis, reduced standards? When I say reduced standards, I mean the reduction of all standards—equipment, salaries, safety, regularity of schedule, and so on.

"In situations of this kind there are always those people who like to use emergencies or periods when a high degree of adjustment is taking place to cut things to pieces, particularly proper standards. There is a limit to which all these things can be carried.

"Frankly, I believe that there has been an awful lot of just plain hot air pumped into this picture by inflationary thinking and planning. There isn't anywhere near the room for the expansion these kinds of planners would like to have the public believe.

'Short Hauls Impracticable'

"Just what will happen in postwar air line transportation is, of course, conjecture. This much is certain, however; air line transportation doesn't lend itself with any great degree of practicability to short haul intrastate operation. In other words, it is primarily a long haul business and long hauls cross state lines.

"As to the matter of proper wage standards stifling the business, this applies not only to air line transportation; it applies to all forms of business. In other words, if you could cut wages, you could greatly broaden your activities. This trend would soon lead to harmful extremes.

"The air line pilots have a minimum salary which is established by law that amounts to a formula method of paying. For daylight operations at the slower speeds or even with a sprinkle of night flying here and there, the overall salary amounts for an air line pilot are nominal, and to go lower than this would mean a lowering of standards that would not be conducive in any respect to the best interest of the business. In other words, any business that must depend on reducing salary standards to even start, to say nothing of existing after a start is made, is an unsound venture. I believe that it would be very wise for anyone that has a voice in this business to do everything possible to prevent its being oversold.

"Normally, commercial traffic lanes are established because of a need, and such traffic lanes are surprisingly limited, particularly where there is a need for speed. First, there's a distinction as to the category of what must be transported swiftly and what can be transferred by slower and cheaper methods.

"Army air transport hauling has also injected a distinct note of instability into the business for the reason that it includes in the loads hauled, as I understand it, practically everything. In peacetime, such cargo will be highly screened and what there is to be hauled will be allocated to every mode of transportation, dependent upon the nature of the cargo."

Visiting Pilots Graduated

Thirty-four pilots from seven Latin American countries were graduated recently from Purdue University after successful completion of the Inter-American Pilot Training Program. The graduates are qualified to serve as co-pilots on commercial airliners. CAA pilots certificates were awarded to 14 from Brazil, 6 from Colombia, five from Mexico, four from Cuba, two each from Chile and Peru and one from Costa Rica. William A. M. Burden, assistant secretary of commerce, delivered the graduation address.

UAL's Arctic Vets— These United Air Lines' pilots, who had never seen Alaska until 1943, have rolled up a combined total of approximately 700,000 Arctic flying miles in operations for the Air Transport Command. Left to right—E. R. Jones, R. C. Ashley, and A. E. Derby.

Under the Table

When four Orangeburg, S. C., women were chased under their bridge table recently by a low-flying Army trainee, whose twin-engined attack bomber caused the chandelier over their heads to vibrate, Maj. William A. Buechner, commanding officer at Hawthorne Field nearby, issued stern warnings. He said that severe penalties will be served on offending pilots, and urged citizens of Orangeburg to report the type and number of any plane observed flying low.

Tachometer Needed To Replace Log Book For Rental Planes

Need for a recording tachometer which will serve the fixed base operator in a manner similar to the function of a meter in a taxicab is being discussed in aviation circles.

Such a device would serve two purposes. It would give the plane owner a check on the use that had been made of his plane when flown on a rental basis, and thereby make the computation of charges a simple matter. It also would provide an accurate cumulative record of the hours that the engine of the plane had been operated, information of importance in determining the resale value of the plane.

John H. Geisse, consultant to the Director of Research of CAA, has declared there is a definite need for a recording device which will fulfill these two requirements. Geisse said there are some devices on the market which meet a portion of the need but they do not do a complete job.

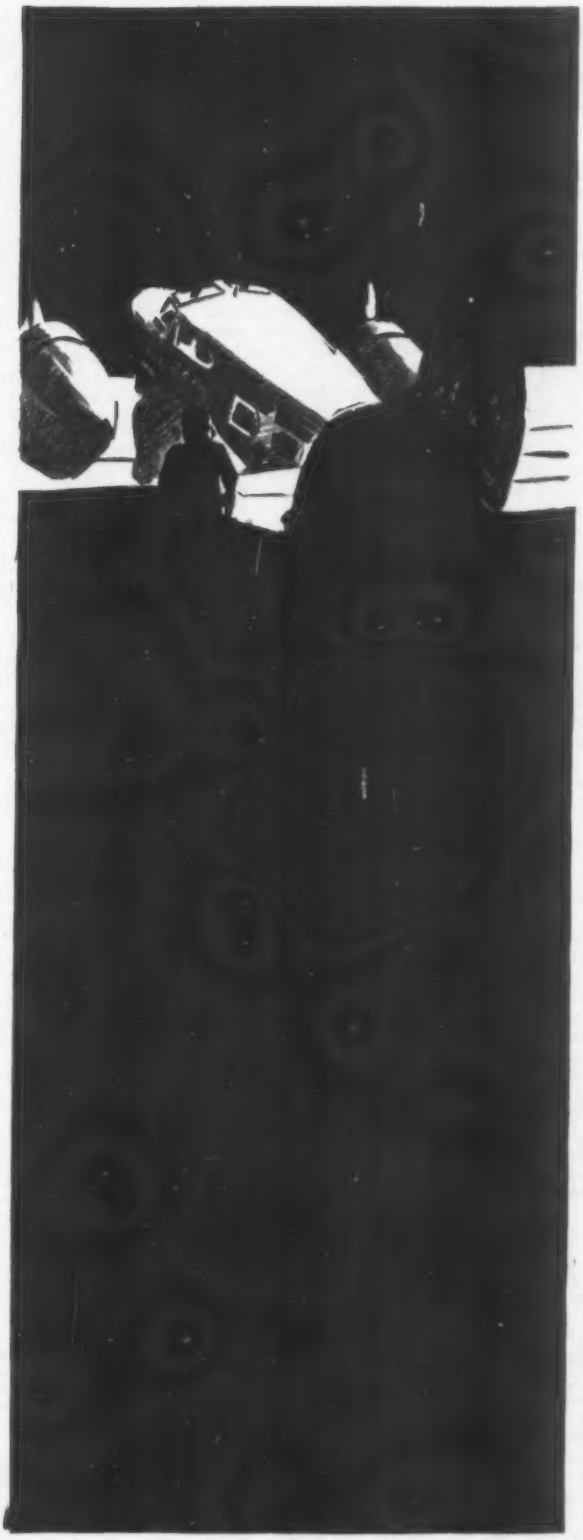
Geisse exhibited a recording device which can be attached to the side of a plane. It works on the vibration principle. A needle, connected with a clock, traces the elapsed time on a circular sheet but as soon as the engine of the plane is started, the needle traces an irregular course. While the resulting record would supply the owner with information as to the amount of time that a renter may have 'run the engine' it would not furnish information regarding speed nor would it automatically become a part of a permanent record like the speedometer on an auto.

If rental prices are based on two main considerations—the time that a plane is away from its home base and the time that the engine was operated, then, according to some fixed-base operators, a tendency will be created on the part of the renter to fly the plane at high speed to cut down that phase of the cost allocated to the time that the engine was in operation. Hence a recording tachometer would fill this need and probably assure the owner that his plane was being operated at the posted cruising limit while at the same time it would provide a permanent record on the hours of engine operation.

Geisse believes that the day of the 'log' book is about over and that some instrumentation must be devised to take its place.

What a student pilot thinks about—

On his first solo in a twin-engine trainer, brain spinning like a compass out of control, the student considers... **1)** *his neck...* **2)** *hola the runway...* **3)** *his neck...* **4)** *flying speed enough?...* **5)** *that tank tower at end of field!* **6)** *his neck...* **7)** *trim tabs...* **8)** *safe to turn?* **9)** *his neck...* **10)** *how'm I doing?...* **11)** *watch field traffic...* **12)** *his neck...*



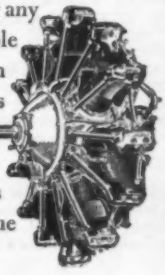
But two or three times out behind a team of Jacobs, he stops thinking about his neck, turns his thinking to his job...The monotonous roar is reassuring. Tachometer, temperature and pressure readings stand steady, spare his eyes for other things. Gas consumption is uniform...

These Jacobs engines promote peace of mind, which promotes concentration...which, with seventy hours, makes bomber pilots.

Often the student pilot's only impressions of Jacobs' engines is that they were among those present! Which is as it should be...

If student pilots were not aware of Jacobs, ground crews were... In training ships, these engines take more take-offs, more full throttle, and more of a beating than engines in combat—or commercial—service. First slated for major overhaul every 350 hours...Jacobs engines now give up to *a thousand flight hours* between major overhauls!

That war record indicates an engine you can bank on—or build on—for any peacetime operation. Dependable performance, low consumption of fuel, low maintenance costs ... make Jacobs a potential profit factor, worth a place in your plans now!... Inquiries invited... Jacobs Aircraft Engine Company, Pottstown, Pa.



JACOBS • **Pottstown, Pa.**

Airline Advertising Should be Reviewed, Johnson Suggests

Suggestions that the War Dept. review the issuance of priorities for air travel and that the airlines review their advertising practices have been made by J. M. Johnson, director of the Office of Defense Transportation.

In a letter to Assistant Secretary of War for Air Robert A. Lovett, Johnson pointed out that issuance of priorities was covered in a memorandum from President Roosevelt to the Secretary of War on May 6, 1942. "I am apprehensive that the strict limitations suggested by the President are not being followed in all cases and I believe that the present situation justifies a careful review of present policies with respect to the use of priorities for air transportation," Johnson said.

"A substantial reduction in the granting of priorities for air transportation will, of course, proportionately increase the space available to the airlines for non-priority transportation, which is so badly needed at the present time."

There was no indication as this issue went to press that Lovett had answered Johnson's letter.

Johnson's letter on advertising was addressed to CAB Chairman L. Welch Pogue and Col. E. S. Gorrell, president of the Air Transport Association. The record of the railroads in discontinuing all traffic-creating and stimulating and competitive advertising has been "exemplary," he claimed.

"Recently, in discussing the passenger situation with several of the railroad passenger men, they referred critically to their competitive disadvantages as a result of current airlines' advertising . . . Although I understand that the rules of the Air Traffic Conference cover advertising practices, I am not persuaded that the attachments (to the letter) adhere to this agreement. In any event, under current conditions, I believe that advertising practices of the airlines should be completely reviewed." Sound policy, Johnson concluded, "is to deter travel."

Johnson's letter has been circulated among the airlines, but no formal reply has been made to ODT, according to Air Transport Association officials.

PCA Develops Nose Hangar

A nose hangar, in which two Douglas DC-3's may be serviced and overhauled at the same time, has been built by Pennsylvania-Central Airlines at Woodrum Field, Roanoke. Looking like the detached end of a regular hangar, it has two hangar areas 40-ft. wide, connected by a two-story building containing shops, offices, stock rooms, and rest rooms—all facing on a 15-ft. concrete apron. Open on one side, the hangar houses only the nose of the aircraft, yet allows complete overhaul protection from the elements through use of canvas curtains. "Built with a minimum of materials and labor, the nose hangar appears to be a practical and economical solution to a wartime construction problem and a glance to the future when airlines may be forced to do certain maintenance work along the line," says L. G. Bregenzer, who designed the structure.

Recent CAB Orders Affecting Air Carriers

3018: Withdrew application of Greyhound Skyways from West Coast case, reassigned it and make it part of Docket 917.

3019: Consolidated all applications for routes in Rocky Mountain area into one proceeding for hearing, Docket 152 et al.

3020: Denied Southair Inc. leave to intervene in certain applications of Braniff, American, C & S, Delta and Eastern, Dockets 503, et al.

3024: Exempted Pan American Airways from provisions of Civil Aeronautics Act insofar as said provisions might prevent PAA from substituting Santiago, Cuba, for Antilla, Cuba, as an intermediate point on Miami-Buenos Aires route, and from temporarily suspending Antilla service.

3026: Granted petitions of American, Continental, TWA, United and Department of Justice to intervene in Rock Mountain case, Docket 152 et al. Denied interventions of Mid-Continent and Northwest.

3028: Granted United States Lines Co. permission to intervene in American Export Airlines divestiture of control case.

3029: Allowed Inland Air Lines to withdraw application for redetermination of air mail rates.

3030: Instituted investigation of non-scheduled operators.

3031: Extended permit of Royal Dutch Air Lines (KLM) for Miami-Curacao service for three months from July 31.

3032: Found agreement between Pan American and Braniff relating to air conditioning of Braniff planes not adverse to the public interest.

3033: Extended permit of Expreso Aereo Inter-Americano S. A. for Miami-Havana service for three months fro mJuly 31.

3034: Authorized Pennsylvania-Central to resume service to Chicago on route 32.

3035: Dismissed investigation of Philadelphia Municipal Airport.

3036: Allowed Eastern to inaugurate non-stop service between Columbus, Ga., and Montgomery, Ala., on route 5.

3037: Allowed National to inaugurate non-stop service between West Palm Beach and Tampa on route 31.

3038: Allowed Pennsylvania-Central to inaugurate non-stop service between Muskegon and Detroit on route 32.

3040: Allowed Board of County Commissioners of Pinellas County, Fla., to intervent in Caribbean case, Docket 525 et al.

3041: Terminated temporary exemption of Alaska Star Airlines and Cordova Air Service under which the former performed service over routes of the latte.

3044: Granted Eastern permission to intervene in certain new route applications of American, Braniff, Colonial, Northeast, Northwest, PCA, TWA, United and C & S, Docket 629 et al.

3045: Allowed United Air Lines and United Air Lines Victory Corp. to withdraw application for approval of acquisition of control of the latter by the former.

3046: Consolidated applications of Western Air Lines and Western Washington Airways in the West Coast case, Docket 250 et al.

3047: Denied application of American for consolidation of its Los Angeles-San Fransisco application in the West Coast case, Docket 250 et al.

3049: Denied petition of W. R. Grace & Co. for reargument and reconsideration of CAB order 2867 granting Pan American Airways' motion for dismissal of proceeding involving U. S. extension for Pan American-Grace Airways.

War Plants Aided

Pan American Airways recently flew two electrical flow meters to Mexico City preventing a slowing of the 24-hour-a-day munitions, smelting, and other war industries of Central Mexico.

Kansas City Airways Elects Officers and Plans Feeder Routes

The Kansas City Airways, Inc., a trade area company organized under the Braniff Airways Trade Area plan, has completed the details of organization and is preparing to file an application with the Civil Aeronautics Board for a certificate of public convenience and necessity. The company is capitalized at $600,000, of which $100,000 was immediately subscribed.

Officers of the new company are: chairman of the Board, Harry Darby, president of the Harry Darby Corp. of Kansas City; president, Morton T. Jones, president of the Kansas City Fire and Marine Insurance Co.; vice president, Thomas L. Evans, president of the Crown Drug Co., Kansas City; secretary and counsel, Dupuy G. Warrick, of the law firm of Warrick, Koontz and Hazard, Kansas City; and treasurer, Willard Breidenthal, president of the Riverside State Bank.

In addition to the officers, the Board of Directors will consist of: W. T. Grant, president, Business Men's Assurance Co.; Cliff C. Jones, president, R. B. Jones & Sons, Inc.; R. C. Kemper, president, City National Bank and Trust Co.; J. C. Nichols, chairman of the Board of J. C. Nichols Companies; R. J. Potts, president, R. J. Potts-Calkins and Holden; Fred Wolferman, president, Fred Wolferman, Inc.

The company proposes to operate a feeder network in cities and towns with a total population of 1,337,955 over 4,552 route miles. The proposed routes extend in every direction from Kansas City into Missouri, Oklahoma, Kansas and Nebraska.

Setting of CAB Hearing In Denver May Lead to San Francisco Session

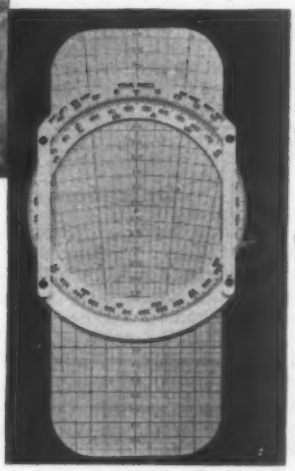
For the first time since 1939, the Civil Aeronautics Board has scheduled a hearing on proposed new air routes a considerable distance from Washington. The Board has set the hearing on the Rocky Mountain cases, Docket 152 et al, for Sept. 5 in the Brown Palace hotel, Denver.

Although it was pointed out that this is not to be taken as a precedent, it seemed likely that the Board also would assign the hearing on the Pacific Coast cases to some city on the Coast, possibly San Francisco.

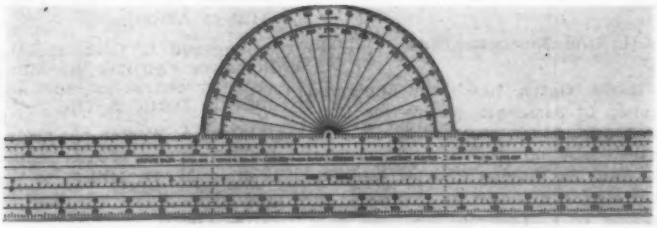
It was pointed out that the distance from Washington, difficulty in obtaining travel accommodations, the hotel situation in Washington and the fact that a great majority of the applicants are interested purely in local air transportation service as distinguished from through carrier operations were factors figuring in the Board's decision.

In 1939, C. Edward Leasure, now chief of the CAB Examiner's section, held hearings throughout the west and southwest. During the past year, the Board held in New York a hearing on the application of Panagra for a U. S. terminal.

U. S. ARMY SUPER-FORTRESS c/o Underwood & Underwood



These "gadjets" help a plane fly around the world - or to the next airport just a few miles away!



These and many other Weems Navigational Instruments and texts help to keep thousands of Army and Navy planes keep on the right course to their destinations. Thousands of navigators of planes and ships of the Army, Navy, the Merchant Marine and the Royal Air Force learned navigation through Weems textbooks and navigation courses.

Home study courses and class-room instruction available. Weems textbooks and instruments may be purchased at your nearest Aviation or Marine Supply House, bookstore, Army or Navy Post Exchange or through the Weems main office.

Enlarged class-room models of Weems instruments are available.

★ ★ ★

Dalton Aircraft Navigational Computer, E-6-B, with leather case and 23 page instruction booklet. Standard with U. S. Air Forces $10.00

Weems Aircraft Navigational Plotter, Mark II, with complete instruction. Standard with U. S. Air Forces $2.00

Lyon Computer (U. S. Geodetic Survey Type	$ 3.00
WSN Course and Distance Protractor	5.00
Link Bubble Sextant. Complete in carrying case and spare bubble	$30.00
Warner Plotter	2.50
Gillmer Computer	3.00
Dalton Mark VII	7.50
Learning to Navigate	2.00
Short History of Navigation (Branch & Brooke-Williams)	1.50
Navigation Notebook and Plotter (Weems)	3.50
Air Navigation (Weems)	3.50
Star Altitude Curves (Weems) Per 10° Lat. Band	5.00
Instrument Flying (Weems & Zweng)	4.00
Illyne Star-Chart	1.00
Line of Position Book	1.50

WEEMS

SYSTEM OF NAVIGATION

WEEMS SYSTEM OF NAVIGATION
DEPT. AA-8-44, ANNAPOLIS, MARYLAND

Enclosed is $..... for which please send the following books or equipment.

Please send descriptive literature on Navigation Courses: ☐ Marine Navigation ☐ Air Navigation. Please indicate with check mark in square.

.....

.....

.....

.....

Name .....

Address .....

City ..... State .....

"WEEMS" IS AN IMPORTANT NAME IN NAVIGATION

Airline Personnel

Wooten Ireland

Gish Standish

Talbot Hart

McKee Baker

Executive

C. Bedell Monro, president of Pennsylvania Central Airlines, has been appointed chairman of the Airlines Division of the National Industrial Information Committee.

Operations

Capt. R. J. Baker, of Trans-Canada Air Lines, has been appointed engineering and research test pilot. His work will include the development of operational economies and procedures.

Lt. Col. John H. Williamson, former Delta Air Lines pilot, flew the plane which carried Vice President Wallace on several recent trips in China, according to a letter from the Vice President to Williamson's mother.

Robert F. McKee has been named maintenance engineer for Continental Air Lines. He was formerly an airport and airways engineer for TWA.

Maj. Vernon M. Dennison has been released from the Army Air Forces after two years and becomes Coordinator of Production Scheduling for Pennsylvania-Central Airlines.

Traffic

Jerry Brooder has been named regional traffic manager of Western Air Lines with new offices at Denver. His appointment follows Western's recent purchase of the controlling stock of Inland Air Lines, of which he had been vice president. **Janeth Talbot,** Western Air Lines' counselaire, has assumed charge of the airline's new offices in the Northern Hotel, Billings, Mont.

H. David Gatch has been appointed supervisor of passenger service for Continental Air Lines, succeeding **W. W. Cormack,** now in the armed services. Continental has named **Charles A. Schumacher** station manager at Hobbs, N. M., succeeding **C. E. Lathrop,** who has been transferred to El Paso, Tex.

Edward C. Ireland has joined Transcontinental and Western Air as mail and express traffic representative for the New York district. He has been retired from the Army Transportation Corps as a captain. Before the war, he was vice president of Liberty Motor Freight Lines and a director of Transco, an organization of interstate motor carriers.

Major J. Barnes has been appointed city traffic manager of Pennsylvania-Central Airlines at Pittsburgh. **Robert Walker Hilton** has been named PCA's West Virginia traffic manager with headquarters in Pittsburgh, and **William Clair Winters** has joined PCA's Washington staff as traffic representative. **Morgan Thomas Bellah** has been appointed traffic representative in Knoxville.

Dorothy Hart, United Air Lines' assistant counter manager at Los Angeles, has been moved to Oakland; **John Standish,** DTM at Oakland, has been shifted to Portland, Ore.; **Jack Misselhorn,** DTM at Sacramento, will succeed Standish at Oakland; **Max King,** Seattle, replaces Misselhorn; **Ross Taylor,** former counter salesman at Cleveland, has been named DTM at Akron.

Sherwood L. Gish, assistant DTM for Northwest Airlines in Minneapolis, has assumed charge of the airline's traffic office in Portland, Ore.

James A. Wooten has been named cargo traffic manager of American Airlines, succeeding **M. D. Miller,** who recently was elected southern regional vice president of American.

Miscellaneous

Maurice H. Crim has been appointed to the newly created position of superintendent of commissary for Braniff Airways. He was the first supervisor of commissary at Braniff's Dallas base.

American-TACA Agreement

American Airlines, Inc., has concluded a traffic interchange agreement with TACA, S. A., Central American airline system, as a consequence of TACA's new franchise to operate into Mexico City from Central America starting Sept. 24. This will enable American to sell through business into Central America and South America via TACA, and vice versa, south of Mexico City.

TWA Sets Safety Record

A safety drive during the first six months of 1944 has brought the lost-time accident frequency of ground employes of Transcontinental and Western Air's Intercontinental Division to 9.75 per million man hours, less than a third of the average for the full year 1943.

Jacket, Trousers to Match

An electrically-heated two-piece suit of light weight has been brought out by the Army Air Forces Materiel Command for use by high altitude flyers. Electrically-heated boots and gloves go with the ensemble. The new equipment is less bulky than the heavy, unheated winter flying clothes—the sheepskin-lined leather outfits familiar to the public. Two electrical circuits are built into gloves, shoes, and jacket, and three in the trousers, so only part of the heat is lost if one of the unit circuits should fail.

NWA Plans Big Office

One of the largest airline ticket offices in the United States will be opened in Chicago October 1 by Northwest Airlines. Located on the lake front, at 100 S. Michigan Ave., the NWA quarters will occupy 4,300 square feet on the ground floor and 1,500 square feet in the basement. A 37-foot frontage on Michigan Ave. and a 116-foot frontage on Monroe St. are provided for loading facilities.

Combs Changes Jobs

Rogers M. Combs, Jr., formerly advertising and sales promotion manager for American Airlines, has joined the contact staff of Dancer-Fitzgerald-Sample, advertising agency, in New York.

ATTENTION LUFTWAFFE! Keep away from this plane. Expect to see it on the farthest trip American bombers make. Expect to see it up high—40,000 feet—but don't expect to see it for long, because the Mustang travels at over 425 m.p.h. And you can expect to see more and more Mustangs, too. The men and women at North American are stepping up production every month. So when you see this high fighting, far flying Mustang, look out, Luftwaffe. Get out of there quick!

FULL-VISION "TEARDROP" COCKPIT ENCLOSURE DROPABLE WING GAS TANKS, FOR INCREASED RANGE SIX .50 CALIBER MACHINE GUNS

North American Aviation* *Sets the Pace*

WE MAKE PLANES THAT MAKE HEADLINES . . . *the B-25 Mitchell bomber, AT-6 Texan combat trainer, P-51 Mustang fighter (A-36 fighter-bomber), and the B-24 Liberator bomber. North American Aviation, Inc. Member, Aircraft War Production Council, Inc.*

Centralized Control vs Duplication

In Maintenance, Foley Sees Big Economical Advantages If Scheduling and Routing is Done at Home Base

By E. J. FOLEY

THE EXPECTED DEMANDS of post-war growth upon the air transport industry may make the development of functional, expandable organizations a critical problem. This is a puzzler typical of a new industry wherein the status quo is an hour-to-hour proposition and all elements are constantly on the move. A wrong guess on a matter of such importance will be fatal. Maintenance is an important and unusual element of the organization. An inspection of the possibilities here may suggest some valuable guideposts.

Foley

Without yet limiting our topic, the logical first thought on the organization problem involves the creation of divisions or regional entities of varying degrees of autonomy. This may be the primary approach to the inevitable decentralization but it is hardly a panacea. The flexibility for "big business" which can result from this form may be its own worst enemy; the company becomes a house divided against itself.

The divisional technique, in practice, appears vulnerable to dissolution into near-independent elements unless there is the same unity of clear policy and intimacy of control which prevailed in the original centralized setup.

The simple geographical differences between the several divisions and the individuality of the division director are only two of the factors which influence the ultimate shape of things. Diversity of work practices, ultimate dissimilarity of originally identical aircraft and definite discrepancies in costs above and beyond those attributable to the differences between the divisions are examples of the possible unfortunate results.

The establishment of so-called divisions ordinarily implies the separation of the entire operation on the basis of route or territorial increments. Complete follow-through of this principle results in separate administrative, traffic, operations and maintenance staffs. It follows that between complete centralization, the practical and desirable goal up to a certain point of "size" and the full divisional setup, there are an infinite number of possibilities. Current practice attests to the soundness of many of these partial breakdowns. Certain air transport functions—traffic, publicity, etc., demand the overall route coverage which can come only from such a technique. However, there is no sign of a uniform pattern connoting accommodations for the future.

The ordinary criteria for decentralizing include the economical limits of main base size, the extent of the operation nationally and/or internationally, the specific nature of certain phases of the operation and the significance to the carrier of certain routes or territories.

A consideration of the maintenance phase alone, although taking into account all of these things has a few special angles worthy of exploration. Exclusive of those functions which naturally require decentralization irrespective of the carrier's size, maintenance is probably the major bottleneck of growth. In terms of personnel, it is a leading element; in terms of floor space or work volume required, it is singular. Fleet size and aircraft size, both of which will vary markedly in the years immediately ahead, have an obvious and extensive influence on our maintenance picture.

Moreover, an analysis of the maintenance organization problem must give place to at least three pertinent possibilities which have been discussed in these columns in the past.

First, how much airline maintenance work may be subcontracted in the future? The pro's and con's of manufacturer maintenance and independent maintenance have been aired here and there is, at the moment, a healthy curiosity and interest on the part of both parties. Surely, much can be said for the farming out of a goodly share of the airline maintenance work exclusive of the airframe proper.

The logical starting point to test the potentialities of the system would be in the field of accessories. Definite checks on such critical points as quality of work, economies of volume production and highly specialized labor could be obtained before the expected sharp expansion gets under way. We hope that the recent Engineering and Maintenance meeting of the ATA paid appropriate attention to this possibility.

Secondly, what appropriate application will be made of the separate maintenance airport suggestion? You will recall that more than two years ago, we discussed the advantages of separating the maintenance function from the main body and setting it up at an exclusively maintenance airport. Some of the advantages claimed were: the lower overall costs possible through strategic location in a low cost-of-living area, the higher employee morale; the adaptability of maintenance to this isolation and the probable advantages of productivity and efficiency to be realized by recognizing this characteristic, etc.

Obviously, the single major disadvantage which is admitted is that of stepping up the traffic demands upon the operating terminal which is served from the maintenance base. It does not seem to us that this alone is enough to discredit the principle entirely. UAL claims to have realized many of these advantages through the employment of Cheyenne, an online station as their maintenance headquarters.

The third concept which must be taken into account in the decentralization of maintenance organization is that of ultimate production of the present plant. One of the basic factors upon which the need for decentralization is based is the inability to get more out of the existing centralized setup. It is extravagant generally to multiply the sites of activity until the first is producing to the maximum.

Accordingly, the consideration of production line technique, wherever possible, becomes a prerequisite to decentralization. This technique which we know to be highly efficient and which we are sure is generally applicable to airline maintenance, probably will go unadopted for some time to come. The larger airlines' fleet size should prompt them to carry on the first large scale programs; but the general fear of high installation and layout costs, insufficient volume and labor dislocations will hold off the program.

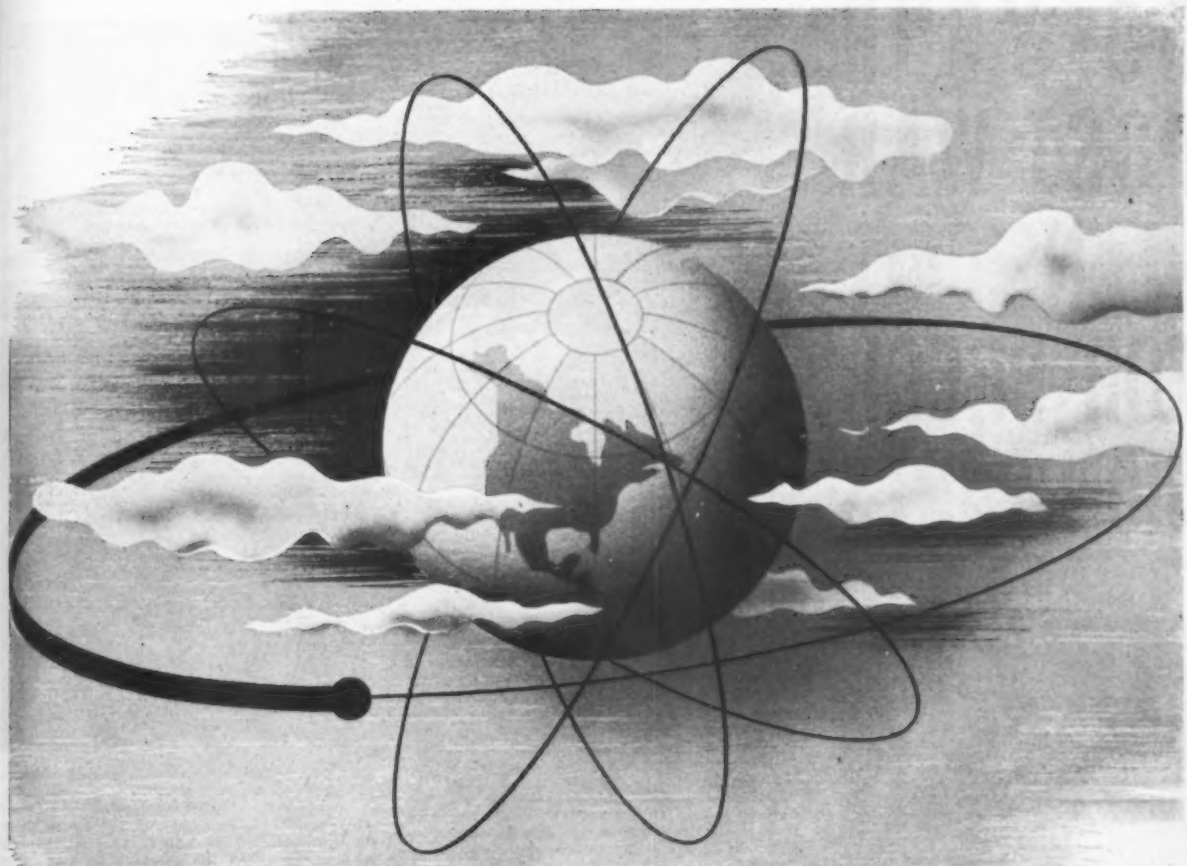
For our purposes, we shall assume that a review of the maintenance program including the effects of these three possibilities still indicates an inescapable need for considerable expansion. Again the course of least resistance is the creation of a divisional maintenance base to handle *all* the work for a certain segment of the system. This means the duplication of the entire facility of the main base and for that reason, to proceed along this line seems unimaginative, to say the least.

Maintenance is a unique phase of the operation in that the whole is divisible into functions, each independent of the other. A partial division would include: aircraft, engine and accessories, instruments, cabin interior, landing gear, etc. This ease of divisibility suggests a course other than the total duplication of facilities and the extravagance of the slack time until a balance can be reached between the first and second maintenance depots.

The elements which go into maintenance cost are, of course, labor, material and overhead. A little time given to study of each of our functional maintenance divisions may show that lower material costs, cuts in freight charges, labor savings, and economies in space rental for service area may be realized through a program of strategic location of the functions throughout the airline's system. Without a detailed analysis of the field of activity, it would seem that the results of such a survey would be eye-opening. Probably, certain handicaps would demand compromise but only a survey of the potentialities could show the gains.

Why not allocate all fabric surface work to a base where climatic conditions permit high production? This is probably a poor example in the light of Rox-

(Turn to page 78)



Delco Radio Products Mean Uniform Quality

Delco Radio products—wherever in use—are of uniformly fine quality. For two reasons . . . First, capable engineering by Delco Radio's laboratories . . . Second, advanced techniques in mass production. It is through this combination of engineering vision and manufacturing precision that Delco Radio meets the demands of war, the needs of peace.

Put Your Dollars In Action
BUY MORE WAR BONDS

Delco Radio
DIVISION OF
GENERAL MOTORS

Equipment News

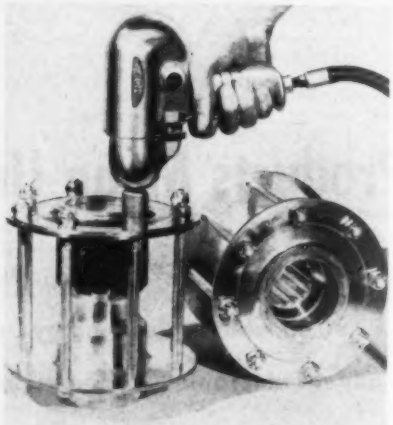
Alligator-Jawed Riveter

This alligator-jawed compressed air riveter for ⅛-in. steel, 5/32-in. Duralumin or 3/16-in. aluminum rivets is announced by

Compressed Air Institute, Terminal Tower, Cleveland. Weighting 9½ lbs., it exerts a "squeeze" that firmly heads each rivet for safe flying, the Institute claims. The tool acts as its own backer-up and riveter, and is said to save both man-hours and costs.

Impact Wrench

A new ⅜" impact wrench that operates with controlled torque is announced by The Aro Equipment Corporation, Bryan, Ohio. This pneumatically powered tool, which the manufacturer says completely prevents stretching or "burning" of threads, is capable of both forward and reverse rotation and has a calibrated adjusting screw on the side of the motor that enables the operator to set any bolt or nut to any desired tension. The control is obtained primarily through the construction of the roller clutch impacting mech-



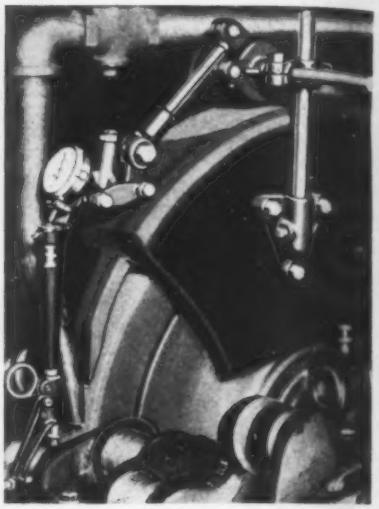
anism, which consists of only four major parts—anvil, hammer, and two cylindrical steel rollers. When in operation the centrifugal force throws the two steel rollers out against the hammer where they are caught in shear between the hammer and anvil members. This transfers the full torque through to the work in the form of a sudden impact.

'Squeeze-Grip' Valve

C-O-Two Fire Equipment Co., Newark, N. J. announces that its "Squeeze-Grip" type valve for hand fire extinguishers of the carbon dioxide type has been adopted as standard by the U. S. Navy Bureau of Ships. Several other branches of the services are specifying the valve. The features which are believed to have had most to do with the acceptance are: ease of operation, economical use of carbon dioxide gas and the fact that the valve has no sealing disc or other parts to be replaced.

Visual Diameter Control

An improved Pratt grinding gauge, which continuously measures the diameter of external cylindrical jobs while work is in progress, and automatically indicates the point at which the correct diameter is reached, is announced by American Diamond Tool & Gauge Company, 7523 Fenkel Avenue, Detroit 21,



Michigan. The gauge is adapted both to straight and tapered work. A special feature is that work is also automatically measured while stock is being removed, thereby saving the time of further calipering. At no stage of operation need the machine be stopped for hand calipering.

Heat and Air Controls

Heat and air vent control assemblies for use on bombers are being molded of lightweight Tenite plastic by Reynolds Molded Plastics Co., Cambridge, O. Through these controls, pilot, co-pilot, bombardier, and navigator obtain heat supplied via air ducts from the exhaust system of the plane. Tenite, a product of Tennessee Eastman Corp., has successfully met the speci-

fications for this heat and air vent control. The control withstands temperatures from 40 degrees below zero to 180 degrees above zero. To ensure its working satisfactorily, a cellulose acetate butyrate formula of Tenite, which has good dimensional stability, was chosen. The control is riveted to the air ducts—an operation calling for a tough high-impact material.

Pioneer Parachutes are designed and engineered to assure safe landings. They have brought thousands of paratroopers, nurses, pilots and their crews safely to earth; daily they render a point to point delivery service, bringing medicines, food and equipment to our armed forces in the remotest corners of the earth and under all weather conditions.

That's why every parachute part must be right — every fibre pretested, every stitch carefully examined. Each component is put through a long series of minutely accurate manufacturing processes, so that Pioneer Parachutes are foul-proof, fool-proof safety mechanisms.

Reinforcing the gallant confidence of our airmen, Pioneer Parachutes go aloft on their missions, functioning perfectly as "air ladders" to safety.

Keep on buying WAR BONDS and help speed VICTORY

WEST COAST FACTORY BRANCH
for the Manufacture, Sales and Maintenance of Pioneer Parachutes
109 SOUTH CENTRAL AVENUE
GLENDALE 4, CALIFORNIA

ARMY E NAVY

CHENEY fabrics

PIONEER PARACHUTE COMPANY, INC.

MANCHESTER, CONNECTICUT, U. S. A.

CABLE ADDRESS: PIPAR. TELEPHONE: Manchester 4157

Canadian Plants Producing Many Aircraft for U. S.

AIRCRAFT PLANTS in Canada are manufacturing more than 2,300 planes on contract for the U. S. Army and Navy, and approximately half of them have been completed and delivered.

Implementing the Agreement of Hyde Park to coordinate and utilize all the resources of the U. S. and Canada contracts were let by the U. S. for plane construction in Canada. Production has been under way at four plants—Vickers Aircraft, Ltd., at Montreal; Canadian Car & Foundry Company, Ltd., at Fort William, Ontario; Fairchild Aircraft, Ltd., at Montreal; and Noorduyn Aviation, Ltd., at Montreal.

The contract with Noorduyn calls for construction of 1,070 C-64As (Norseman), and 500 have been completed. The Norseman is the only wholly Canadian-designed aircraft in the program. They are to be used by the U. S. Army as 'bush' planes because of their adaptability to small areas, being a utility single-engined transport. They use Pratt & Whitney engines.

The Vickers contract is for 230 PBY5 Catalina flying boats, or designated in Canada as the OA-10A. More than 80 of these twin-engined planes have been built and the contract is expected to be completed by the end of this year. The American design was changed slightly to meet RCAF standards and it is this type which is being made for the U. S. These amphibians, famous for coastal reconnaissance, will be used for sea rescue work.

The other two contracts are for Curtiss 'Helldivers.' They call for the manufacture of more than 1,000 planes, involving an expenditure of 60 million dollars. Exact number of these famous dive bombers being produced in Canada is still a U. S. Navy secret. They are designated as SBW and SBF, the last letter indicating the factory in which they are made. These contracts run until the middle of 1945.

All engines for the planes made in Canada on U. S. contracts are imported. Otherwise, except for certain instruments, these planes are Canadian made, and hundreds of companies throughout the Dominion are now turning out parts and equipment for them. Among these are manufacturers of propellers.

No More Contracts Seen

The contracts in Canada for the U. S. are handled through War Supplies Limited, which was incorporated May 13, 1941, as a means of putting the Declaration of Hyde Park into operation. Its function is to negotiate and receive orders from departments of the U. S. for war supplies to be manufactured in Canada.

The U. S. is not expected to let any more contracts for plane construction in Canada as domestic plants now can meet the needs.

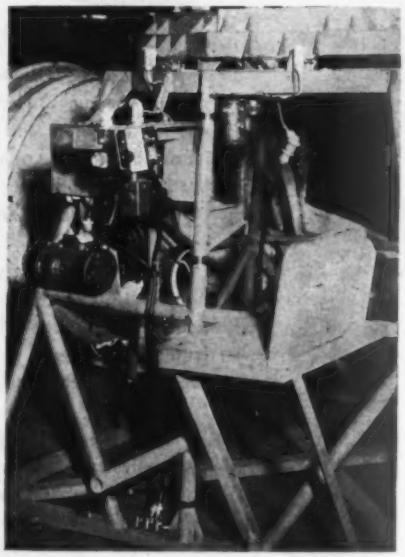
Automatic Pilot Called Better Than Human For Obtaining Data

Aircraft performance data can best be obtained through precision automatic pilots rather than through test pilots, Robert J. Kutzler of Minneapolis-Honeywell Regulator Co. maintained in a paper read before the annual summer meeting of the Institute of the Aeronautical Sciences last month in Los Angeles.

"Present flight performance tests depend largely upon pilot impressions and limited instrumentation, and because of the limited instrumentation, the test pilot's skill and aerodynamic background are major functions of aircraft performance data," he observed. "It is relatively difficult to translate pilot impressions into quantitative design criteria."

Kutzler recommended the automatic pilot be used in tests "to improve the quality of power plant and propeller calibration tests as well as increase the accuracy of aerodynamic data."

Other speakers at the Los Angeles meeting were L. E. Root, Douglas Aircraft Co.; Reinhardt M. Rosenberg and Leon Beskin, Consolidated Vultee Aircraft Corp.; Fred A. Heddleson, Westinghouse Electric and Manufacturing Co.; R. M. Head, Arthur N. Tifford, C. J. Buzzetti and W. L. Howland, Lockheed Aircraft Corp.. Robert Rosenbaum and Robert Scanlan, Eastern Aircraft Division, General Motors Corp.



Training Stand— A device which mounts a standard Glenn L. Martin Co. electric turret and simulates many of the conditions experienced in actual combat has been developed by Martin engineers. As shown above, it provides a seat and controls for an instructor from which he can control the movement both of a target airplane swinging on a wire and the "bomber" on which the turret is supposedly mounted.

Foley

(Continued from page 74)

alyn's Emycel process which defies humidity but it illustrates the theory.

In the field of manufacturing, a certain volume of which is required of every carrier, the division of effort and resulting specialization offer special advantages. If the operator serves a small station twice a day but finds it necessary to maintain a mechanic there, we can assume that there is a daily slack of some magnitude in the mechanic's schedule. A review of the mechanic's record reveals an aptitude for aircraft plumbing work. The logical result should be the development of that station as the plumbing manufacturing depot of the system.

The extension of this examination throughout the system should reveal many parallel situations which lend themselves to economical, sound development. Such a survey should be carried out concurrently with the general maintenance division analysis.

The possible disadvantage which will be immediately cited as inherent in this proposal is one of aircraft scheduling. By scattering segments of the maintenance program throughout the system, we develop a tangible problem of routing equipment to assure its being at the right base at the right time.

Obviously, no answer can be made to this charge, which will be generally applicable, because of the circumstances peculiar to each operator. However, an investment in effective centralized control of scheduling and routing may be all that is needed to realize the distinct economical advantages of decentralized maintenance realized by functional breakdown rather than by routine duplication of facilities.

As a matter of fact, we are of the opinion that scheduling and, more particularly, routing of equipment lends itself to a more concise and scientific pattern than has generally been applied. Other types of transport even to the pipeline may offer routing concepts worthy of detailed study.

We'll welcome the reactions of all, especially airline mechanics, to these suggestions.

Can't See Plant for Dime

People often walk up to one of the gates at Lockheed Aircraft Corp's. Factory A-1, Burbank, Cal., lay down a dime on the plant guard's counter and start to walk in. When the guard halts them they point to the sign over the gate which says "10c" whereupon he explains that is the gate number. One woman with a little boy walked up, laid down a dollar, and said: "Do children under six have to pay 10 cents, too?"

Weber Given New Duties

Donald R. Weber of the staff of the National Aircraft War Production Council in Washington has been assigned on a part time basis to the East Coast AWPC. He will assist in the Council's committee work, especially in connection with the disposal of surplus materials. Weber will divide his time between the Washington and New York offices of the Council. He has been specializing for some time in materials and WPB matters.

Today, at Hawthorne, Northrop is turning out another "first"... the first U. S. warplane designed specifically for night fighting!

The Black Widow carries a skipper *and a crew* . . . is the largest, most powerful fighter plane ever built.

It can "smell out" enemy planes in the dark like a hound dog—hit them "from nowhere" with the shattering power of 20 millimeter cannon and 50 calibre machine guns.

With the range and heft of a medium bomber, the power of a Diesel locomotive, the Black Widow has fighter speed. Yet it's sweet to handle, safe to fly. It's hard to spin from even the tightest turns. It takes off fast . . . lands so slowly it sets down safely in the dark on small fields.

The Black Widow is built on four years of battle knowledge and long-recognized Northrop skill and craftsmanship.

And as the Northrop group is producing the new P-61 for this year's battles . . . Northrop is pioneering still more advanced planes for tomorrow.

NORTHROP *Designers and Builders of the* ***BLACK WIDOW P-61 Night Fighter***

NORTHROP AIRCRAFT, INC. • NORTHROP FIELD, HAWTHORNE, CALIFORNIA • MEMBER AIRCRAFT WAR PRODUCTION COUNCIL, INC

8,000-Plus Monthly Plane Goal for Remainder of '44

August May See Total of 8,274 Planes; July Drop of 5% Explained

THE AIRCRAFT INDUSTRY has its sights set on a schedule of 8,274 planes to be turned out in August, a figure which will be kept roughly constant during the remainder of the year, according to goals announced by Charles E. Wilson, chairman of the Aircraft Production Board.

Announcement of the schedule followed official compilation of the figures for July —an even 8,000 planes, approximately the same as the June figure, but a 5.9% drop below the schedule set for July.

The drop did not affect the production of Boeing B-29 Superfortresses which totaled four more than scheduled.

Wilson pointed out that on a weight basis the pattern of the last several months was maintained in July, and that the aircraft program now is stabilized approximately in numbers at the level that will persist until the defeat of Germany.

The July drop from schedule was attributed by Wilson to two main causes: "First, the approved action on the part of a number of companies in diverting several days during the first of the month from regular production in order to take inventory; and, second, the change in certain cases in the acceptance procedure of completed aircraft needing modification. The new procedure postponed final acceptance until after the incorporation of all authorized modifications, thus setting back the reported deliveries in July, even though shop completions up to the modification stage were substantially on schedule."

The production record was bulwarked by the periodic munitions output report issued by War Production Board Chairman Donald Nelson which showed that aircraft production for the first half of the year was above schedule.

Although no longer the major expanding program, aircraft still accounts for the biggest single share of war production, Nelson said. He cited the June figures as an example, showing that output of airframes, engines, propellers, spare parts, gliders, etc., amounted to $1.669.-000,000—close to 31% of all munitions production.

For the first half of the year, aircraft accounted for more than 30% of the six month total—$9,924,000,000 out of $32,576,000,000.

Surveying the first half of the year, Nelson commented:

"A total of 8,049 planes was turned out in June. Production ran 4% behind schedule in June, on a dollar-value basis, and 5% short on an airframe weight basis. However, there were above-schedule performances in January, February, March, and May. As a result, first-half output of airframe weight (582,600,000 pounds, including spare parts) was actually higher than called for by the first-of-the-year airplane schedule (578,500,-000 pounds, including spare parts).

"This accomplishment was achieved in spite of an uninterrupted decline in employment at airframe plants. Between January and June 1, employment at airframe plants dropped almost 10%—from 928,500 to an estimated 840,000. Yet in the first six months, output of airframe weight, including spare parts, actually increased 9% from 89,989,300 pounds to 97,800,000 pounds."

Aircraft production on the Pacific Coast in July was 1,890 Army and Navy planes with a total weight of 26,909,100 pounds, according to figures released by Col. W. H. Dayton, acting western district supervisor of the Materiel Command. Although this was below the actual schedule, it was only a paper drop, he said, because of the new method of recording completions.

Schedule Met Despite Douglas Chicago Fire

The administration building at the Douglas Aircraft Company's Chicago plant, which was destroyed by fire last month, is being rebuilt rapidly and pending its completion personnel are being crowded into nearby buildings.

Despite the fire, the Chicago plant last month exceeded its schedule by two C-54s. Copies of vital data were reproduced at the Santa Monica plant and were flown to Chicago, forestalling any serious delay of operations.

Douglas announced that its July production met or exceeded schedules.

Worker 'Gives' Army Three P-38 Fighters

Three Lockheed Lightning P-38 fighters a year, assembled and ready to fly to the fighting fronts, are the personal one-man gift to the Army Air Forces of a Lockheed mechanic.

He is Jack Peslin, champion idea man of the Lockheed work simplification employe proposal for improvement program. Peslin has submitted 322 proposals for improvement. Of these, 110 have been accepted and installed with an aggregate payoff to Peslin of $2423.

The 24,000 man-hours saved in one year by all of his accepted proposals are the equivalent of man-hours required to build and assemble three P-38 fighters.

CAA's Technical Aviation Information Bureaus Aid Aircraft Manufacturers

A wide variety of aviation questions are being answered by the new technical information sections which the Civil Aeronautics Administration has established in each of its 79 district offices. The service is part of the CAA's policy of giving all possible help to pilots, airport and school operators, and all interested in aviation.

The service consists of complete libraries of necessary information on aircraft of all types, as well as engines and instruments. Bulletins are available covering maintenance repair and servicing of products and, as revisions are made, such files are altered. A standard filing system makes all bulletins easily accessible.

CAA terms the service "a logical parallel development of our proposal that private aircraft owners be allowed to do routine maintenance and repair work of their planes."

Boeing's 10,000th Kaydet Trainer— This is the 10,000th Kaydet Primary Trainer to be produced by the Wichita Division, Boeing Airplane Co. Shown in ceremony at Wichita when the plane was accepted by Brig. Gen. Ray G. Harris, supervisor of the Midwestern Procurement District, Army Air Forces, are: Left to right, A. W. Schupp, Boeing assistant works manager; J. E. Schaefer, vice president and general manager of the Wichita Division; Harold Zipp, chief engineer; T. C. Pitts, general superintendent of Plant II; Gen. Harris; Bernard Taylor, general superintendent of Plant I; and H. F. Brown, works manager.

OVER 8,500 AMPHENOL PRODUCTS FOR ELECTRICAL TRANSMISSION

Save this— For future reference. For information you need now— Use the Coupon.

If in your products you use electrical transmission equipment, there is in these Data Sheets information that you can use to advantage, if not today then on postwar products.

Amphenol equipment is used where the requirements are tough. There are Amphenol products for current of low or high frequency. Wherever you use electricity you need the best of equipment—Amphenol.

Use the coupon to send for the information you want

AN and 97 CONNECTORS

Where electrical connections must be positive and secure, where they must be made or broken quickly—as on aircraft, tanks or ships—these connectors are used. Made with from one to forty-eight contacts. On the coupon check **Section A.**

SPECIAL CONNECTORS

These are the special service connectors—explosion proof, moisture proof, thermo-coupling, grounding, instrument, special mounting, etc. Mark the coupon **Section A1.**

CONDUIT FITTINGS

Conduit couplings—straight, 45° and 90°, coupling nuts, ferrules, clamps, etc. Designed for secure connections. Properly finished to avoid abrasion of wire insulation. On coupon check **Section B.**

AIRCRAFT ELECTRICAL CONDUIT and CABLE ASSEMBLIES

Flexible metal and plastic conduit, cable assemblies, wiring harnesses, etc. Ample facilities for quantity production. On coupon check **Section B1.**

SPECIAL TOOLS

Conduit ferrule crimping machines, saw vises for cutting conduit and cable. Special tools for good work on this type of electrical equipment. Mark on the coupon **Section C.**

U. H. F. CABLES AND CONNECTORS

For ultra high frequency transmission—Amphenol low-loss cables and connectors—a complete line. This includes the full list of RG type cables. On coupon check **Section D.**

BRITISH CONNECTORS

In quality, type, range of size and application these are similar to Amphenol AN and 97—but built to specifications of the British Air Ministry. Mark the coupon **Section E.**

RADIO PARTS AND ACCESSORIES

For Radio, FM, Television, Electronic and Sound equipment—connectors, sockets, plugs, etc. Also special tools for wiring. On the coupon check **Section F.**

SYNTHETICS FOR ELECTRONICS AND INDUSTRY

The story of Amphenol's facilities for making plastic parts or products by compression or injection molding, extrusion or machining. On the coupon check **Section G.**

Depend upon **AMPHENOL** *Quality*

Connectors
Fittings
Conduit
Cable
Radio Parts
Synthetics

AMERICAN PHENOLIC CORPORATION
1830 S. 54th Avenue, Chicago 50, Illinois

AMERICAN PHENOLIC CORPORATION
1830 S. 54th Avenue, Chicago 50, Illinois

Please send me information and Data Sheets as checked below—without obligation.

☐ Section A	☐ Section B1	☐ Section E
☐ Section A1	☐ Section C	☐ Section F
☐ Section B	☐ Section D	☐ Section G

Signed _____

Company _____

Address _____

City and State _____

DPC Authorizations

AVIATION CORP., for additional facilities at plant in Williamsport, Pa., costing approximately $985,000.

HIGGINS AIRCRAFT, Inc., for additional equipment at a plant in New Orleans, costing approximately $1,300,000; overall commitment of approximately $31,000,000.

BENDIX AVIATION CORP., for additional machinery and equipment at plants in South Bend, Ind., and Wayne, Mich., costing approximately $700,000; overall commitment at approximately $22,400,000.

SARGENT AND CO., New Haven, Conn., for machinery and equipment costing approximately $260,000.

GOODYEAR TIRE AND RUBBER CO. OF KANSAS, for equipment costing approximately $1,500,000 to be used at a plant in Topeka, Kans.

NORTHROP AIRCRAFT, for additional plant facilities at Hawthorne, Cal., costing approximately $60,000; overall commitment of approximately $4,150,000.

U. of Denver Professor Warns of Discrimination In Cancelling Contracts

A. D. H. Kaplan, professor of economics at the University or Denver, has written an analysis of the problems which, he expects, will confront the United States during the "crucial interval" after the war.

Prof. Kaplan covers the liquidation of war production and the inauguration and expansion of peace production in a 133-page book published by the Committee for Economic Development. He emphasizes the dangers inherent in measures to protect the special interests of particular groups and localities, and points to the need for policy and action which will serve the best interests of the whole country.

"All who read this report should be impressed with the fact that, by and large, we as individuals and groups can prosper only as the whole economy prospers," says Ralph E. Flanders, chairman of the research committee of CED, in the foreword to the book.

B-17 Made Into Airliner

An American Flying Fortress, which recently made a forced landing in Southern Sweden, has been converted into a commercial traffic plane and placed at the disposal of the Swedish Aerotransport Co.

Typhoon has 1000-lb. Bombs

The Typhoon bomber now is carrying a 1000-lb bomb under each wing in operations over France. The plane, like the Hurricane, is produced by the Hawker Aircraft Co. and designed by Sidney Camm.

Junior Air Head Named

Kenneth E. Benson, P. O. Box 295, Coral Gables, Fla., has been appointed chairman of the aviation committee of the United States Junior Chamber of Commerce. He has long been interested in aviation affairs in Ohio and Florida.

Bill Placing Five-Year Padlock On Surplus Goods Hit by Murray

Other Members of His Committee Opposed to Freezing Tools of War

THE JOHNSON BILL, which would put a five-year padlock on surplus war goods of a "durable" nature, including aircraft, is doomed to defeat in the Senate, members of the Murray War Contracts Subcommittee of the Senate Committee on Military Affairs indicated August 7.

Sen. James E. Murray (D., Mont.), chairman of the committee, led his colleagues in opposing the measure embodying a "continuing threat" to industry. The bill was introduced by Sen. Edwin C. Johnson (D., Col.).

"Your bill would put industry back on its feet before the markets are flooded with surplus goods, but what about five years from now?" Sen. Murray asked the Coloradan.

"This Congress should not be concerned with what the Congress five years from now will do," Sen. Johnson replied. "I have faith that any Congress, at any time, can take care of itself."

The bill, introduced as a substitute for the surplus property bill introduced by Sen. Johnson June 23, provides that "durable property" (that which is not subject to rapid deterioration from natural causes) shall not be disposed of until five years after the termination of the present war, except that:

> "1. Until the expiration of six months after the termination of the present war aircraft suitable for personal use may be disposed of in such manner as the (surplus) administrator may deem advisable;
>
> "2. Until the expiration of six months after the termination of the present war, aircraft suitable for transport use may be leased to United States citizens or corporations organized under the laws of the United States or any State or Territory or the District of Columbia for periods expiring not later than 12 months after the termination of the present war."

Other provisions of the bill are:

(a) No aircraft used only for military purposes shall be disposed of except as specifically authorized by Act of Congress; (b) property suitable for vocational training ("including parts of planes") may be transferred to tax-supported institutions as the surplus administrator deems advisable; (c) durable property, not classed as obsolete or scrap, shall not be destroyed or changed from its existing form so as to make it unavailable for useful purposes, but durable property so classed shall be placed in a permanent stock pile of war material for purposes of national defense, which the (surplus) administrator shall create and maintain; and materials in such stock pile may be disposed of as Congress may by law provide; (d) war contractors may retain parts of their termination inventories for manufacturing uses, but no part of such inventories shall be sold.

Sen. Robert A. Taft (R., O.) suggested that planes, jeeps, and trucks become obsolete quickly and that if they were held for five years after the war they might be so far out of date that the Government could not sell them.

"It would be better for the Government to take the loss than to flood the market with any kind of surplus goods and keep industry from having a free hand at reconversion," Sen. Johnson replied. "I don't believe industry can get under way if it is going to be faced with a deluge of surplus property."

Sen. Chapman Revercomb (R., W.Va.) criticized the bill for not including a provision for returning surplus goods from foreign countries rather than let "existing agencies" handle their disposal.

"This bill overlooks the long-time process which will be required to restore metals sent out of the country," he said. "If we sell metals abroad, we will weaken our reserves at home, which already are considerably depleted."

John P. Frey, president of the Metal Trades Department, American Federation of Labor, said labor would favor the Johnson bill if a committee, including a labor representative, were set up to control the surplus administrator's policies.

C-54 Assembly Line—The extent to which C-54's are being turned out at the Douglas Chicago plant is evidenced in this recent photo. As announced in Washington by Charles E. Wilson, chairman of the Air Production Board, production at Douglas-Chicago has been above schedule.

The Spider and the Fly-er

Even as the gossamer thread of the spider combats the force of gravitation, so Stanpar chutes save the flyer in man's last chance.

After Victory the needlecraft skills now entrusted with so important an assignment will be applied to civilian goods for your better living.

To speed that day . . .

BUY MORE WAR BONDS

Wonders of nature never cease! Here you see a spider spin its way down from lofty heights by a thin, scarcely visible thread. Wonders of man ever increase! And from high in the skies a flyer descends to safety with his favorite parachute . . . product of miles of thin but staunch Nylon yarn and thread. Even as the spider spins its web with infinite care, Standard "parachutes with a pedigree" are perfection in every stitch and seam.

Stanpar

STANDARD PARACHUTE CORPORATION SAN DIEGO, CALIFORNIA, U. S. A.

New Booklets

Copies of a new 35-page illustrated booklet entitled, 'Achievement in British Aircraft,' may be obtained by request from the British Information Services, 30 Rockefeller Plaza, New York City.

The Hawthorne School of Aeronautics has published a well illustrated booklet depicting activities of Hawthorne Field, Orangeburg, S. S. The School, of which Beverly E. Howard is president, has established an enviable record under contract with the Army Air Forces giving primary flight training. While military flight operations started at Orangeburg with the class of 42-D on Oct. 4, 1941, Hawthorne is one of the oldest flying organizations in the south, having been established in 1932 at Charleston, S. C.

Major questions confronting war contractors are answered in a new booklet for both prime and sub-contractors, "The Contractor's Guide," published by the Publications Branch, War Department Bureau of Public Relations. Written in non-technical language and graphically illustrated to emphasize salient points, the booklet is another step in the program of the Readjustment Division, Army Service Forces, to simplify action and promote speedier settlements of terminated contracts.

The Quickwork Division of Whiting Corp. announces publication of a new bulletin featuring the applications and operation of Quickwork Stamping Trimmers. The booklet has been designated QW-119.

"Special Aids for Placing Military Personnel in Civilian Jobs" is the title of a 500-page volume being used in the 1,500 local offices of the U. S. Employment Service. Ten thousand civilian jobs related to military occupational specialities of returning veterans are listed.

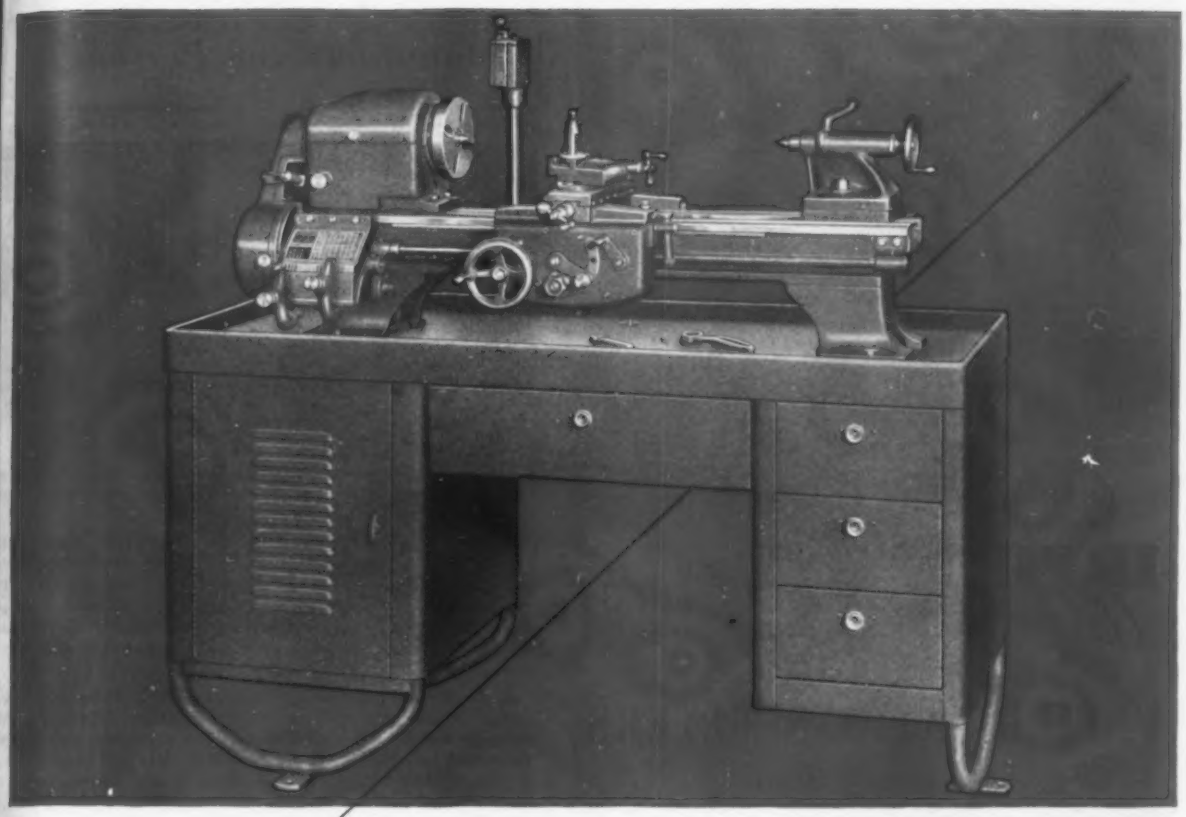
Memorandum No. 190, entitled "Information Concerning the Veterans' Assistance Program," has been issued by National Selective Service. It is designed to be of help to employers in connection with applications for re-instatement to jobs by returning soldiers. The Memorandum contains a summary of the Servicemen's Readjustment Act as well as a copy of the Act itself. Copies of the Memorandum can be obtained from local draft boards and through state or national Selective Service offices.

To aid in promoting new units of adults and cadets in the Civil Air Patrol's expansion program, two official pamphlets "How to Form a CAP Unit in Your Area" and "How Civil Air Patrol Cadet Training Helps You Win Your Wings as Gunner, Bombardier, Navigator, or Pilot on an AAF Air Combat Crew" have been issued. The pamphlets may be obtained from 500 Fifth Ave., New York.

"Air Express Now and Tomorrow" is the title of an illustrated booklet published by Railway Express Agency detailing facts about the growth and development of REA's Air Express Division.

Southeastern Air Buys Assets of Georgia School

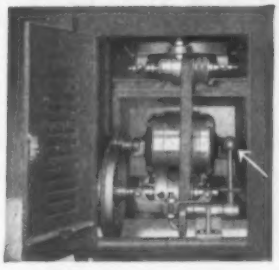
Assets of the University of Georgia School of Aviation have been purchased by Southeastern Air Service, Inc., and the company has signed a 10-year lease on the Athens, Ga., airport. Complete aircraft and engine overhaul shops were included in the deal, Cody Laird, president of Southeastern, reports.



Logan Presents

NEW QUICK CHANGE GEAR
CABINET LATHE

With Automatic Apron



The Logan Cabinet Lathe is particularly adaptable to tool room work, for maintenance, for training, or for production. It is not only built with features and to standards of precision that are outstanding in its field, but it also has the durability to stand up under continuous production use. The carriage with friction-feed automatic apron travels over a rugged, warp-free bed that is ground to within .0005" of absolute accuracy. The total run-out of its headstock spindle 12 inches from the bearings is less than .001". The lead screw is held to within .002" in 12 inches. The spindle turns on a double row of preloaded, grease sealed ball bearings, and at 40 other vital points throughout the lathe friction is minimized by self lubricating bronze bearings. Four large drawers in the strong tubular steel cabinet may be used for tool storage. Each drawer has an individual lock. Left hand compartment contains underneath motor drive and countershaft. The entire cabinet stands on a 3-point base, assuring a steady installation on any floor. All moving belts and gears are completely enclosed. Ask your Logan dealer or write for catalog information.

UNDERNEATH DRIVE: Completely self contained and enclosed in left compartment of cabinet. For easy, safe belt changing, the lever (indicated by white arrow) is pulled outward to release flat belt tension. Adjustments of both flat belt and V-belt tensions are easy to reach. Multiple V-Belt Drive transmits power from cone pulley to spindle.

BRIEF SPECIFICATIONS: Swing over bed, 10½" . . bed length, 43⅛" . . . spindle hole, $\frac{25}{32}$" . . . precision ground ways: 2 prismatic V-ways; 2 flat ways . . 12 spindle speeds, 30 to 1450 r.p.m. . . . worm drive from lead screw spindle for power feeds . . . friction clutch on power feeds . . . longitudinal feed .0015 to .1000" per spindle revolution . . . cross feed .25 times longitudinal feed . . . half nut drive from lead screw for thread cutting . . . Threads, 48 selections RH or LH, 4 to 224 per inch . . . self lubricating bronze bearings at 40 separate points.

LOGAN ENGINEERING CO.

CHICAGO 30, ILLINOIS

A NAME TO REMEMBER WHEN YOU THINK OF LATHES

Manufacturing Personnel

Southee Morley Pape

Richard Conder has been appointed purchasing agent of the Hagerstown plant of Perfect Circle, succeeding **Robert Borst,** who has joined the Navy.

Leonard C. Mallet has been elected general manager of Pratt and Whitney's Missouri corporation, succeeding **Frederick G. Dawson,** who has resigned to join the Sikorsky Aircraft Division, United Aircraft Corp. **Ronald T. Riley** has been elected a vice president and director of the Missouri corporation, coming from Canadian Pratt and Whitney.

P. K. Macker has succeeded **Robert S. Johnson** as director of public relations for North America Aviation. **Cliff Johnson** has been appointed Macker's assistant, and **Jerome Luboviski** has been named general supervisor of public relations for the California division of North American. **H. A. 'Pop' Morley** has retired as a civilian inspector for the AAF at the Inglewood plant.

James F. Stengel is the new director of industrial relations of Fairchild Engine and Airplane Corp., replacing **H. S. Hall.**

Charles J. Hodge has been promoted from assistant director of industrial relations of Republic Aviation Corp. to director. He was formerly assistant personnel director for United Air Lines.

R. B. Teree, of Curtiss-Wright Corporation's Airplane Division Research Laboratory, has been appointed chairman of the Hydraulic Systems and Installation Subcommittee of the National Aircraft Standards Committee, Aeronautical Chamber of Commerce.

Louis F. Malkovsky has been awarded a diamond, ruby and sapphire pin in recognition of 30 years' service with Sperry Gyroscope Co.

James H. Wyld, research engineer with Reaction Motors, Inc., has been elected president of the American Rocket Society.

J. P. Pape has been named treasurer of Consolidated Vultee Aircraft Corporation's Louisville Division, replacing **H. B. Posey,** resigned.

Earl R. Southee has been appointed manager of the aviation section of the Hilliard Corp. He was formerly chief of the standards division and assistant director of the War Training Service of CAA.

Hodge Teree Malkovsky

Now Truckloads *Fly* Around the World

CURTISS-WRIGHT *Commando* Cargo Transports carry huge loads of supplies to all war theaters. White trucks help to build the *Commando*, at the Curtiss-Wright plants at Buffalo, N. Y., as well as load them. For instance, they haul fuselage sections from sub-assembly to final assembly lines —thus serving as extensions of the production lines themselves.

AIR-BORNE CARGO has become tremendously important in global warfare. The ability to fly tons of goods in a single ship . . . thousands of miles in a few hours . . . is another reason why this is a war of *transportation.*

THE FIRST AND LAST LEG of every cargo flight is by motor truck. Many Super Power Whites travel hundreds of miles to the plane-side with high priority loads . . . supplies of the most urgently needed kinds that must roll to air-docks on schedules trimmed to the minute.

THIS THIRD YEAR OF WAR finds many Whites performing essential work—equally exacting—*after hundreds of thousands of miles of service.* With proper care they will be able to do so for hundreds of thousands of miles more . . . and to assure it White has pioneered *Personalized Service.* Every White Branch and Dealer has the Plan available for every owner—regardless of where his truck is serviced.

THE WHITE MOTOR COMPANY
Cleveland, Ohio, U. S. A.

White

FOR MORE THAN 40 YEARS THE GREATEST NAME IN TRUCKS

BUY MORE WAR BONDS

Financial Notes

EDWARD G. BUDD MANUFACTURING CO. reports for the quarter ended June 30 net income of $1,072,934, after all charges including provision of $2,884,000 for Federal income and excess profits taxes. This compares with net income of $500,058 for the quarter ended June 30 last year, after provision of $2,195,000 for taxes. For the six months ended June 30, net income was $2,157,387 after taxes of $7,068,000, compared with net income of $1,189,546 for the like period of 1943 after taxes of $4,880,000.

LIBERTY AIRCRAFT PRODUCTS CORPORATION'S directors have recommended calling a special meeting of stockholders, at a date to be set, to approve a two-for-one split-up of the company's common stock. The company paid a dividend of 50c a share Aug. 11 to stock of record Aug. 1. The previous payment was 25c on May 12.

CESSNA AIRCRAFT CO., Wichita, Kans., last fortnight declared a dividend of 40c per share on 700,000 outstanding shares of stock, payable Aug. 10 to stockholders of record July 25.

NORTHWEST AIRLINES' directors have declared a dividend of 50c per share on the company's common stock, payable Sept. 1 to common shareholders of record Aug. 18, and representing a total amount of $178,190. The company has a total of 356,380 shares of common stock outstanding, an increase of approximately 50% having been approved earlier in the year. This is the third consecutive year that Northwest has declared a dividend.

BRANIFF AIRWAYS' net earnings for the quarter ended June 30 were $220,357.82, T. E. Braniff, president, told the company's board of directors July 31. The board declared a cash dividend of 15c per share, payable August 25 to stockholders of record August 10.

MID-CONTINENT AIRLINES announces that its gross revenue for June was $189,535. Revenue passenger miles in June were 2,078,816 as compared with 1,709,487 in May. Mail pound miles in June totaled 41,059,736 as against 39,143,310 in May. Express pound miles in June were 4,033,453 as compared with 4,241,897 in May. Net earnings for the first six months, after taxes, $92,390.

National Aviation Increases Penn Central Airlines Holdings by 5,000 Shares

National Aviation Corporation's semi-annual report discloses an increase in holdings of Pennsylvania-Central Airlines, the company having exercised warrants and purchased 5,000 additional common shares bringing its PCA total to 23,000 shares.

National also exercised its rights on Northwest Airlines and now holds 18,600 shares. Three thousand shares of United Air Lines common were sold, leaving 7,000, but 1,400 shares of the convertible preferred were acquired. These shares are convertible into common at $30 each.

National's airline investments follow:

American Airlines, 2,800; Braniff Airways, 12,200; Chicago and Southern Airlines, 10,450; Eastern Air Lines, 4,500; Mid-Continent Airlines, 17,000; National Airlines, 8,000; Northwest Airlines, 18,600; Pan American Airways, 7,500; Pennsylvania-Central Airlines, 23,000; TACA Airways, 6,000; Transcontinental and Western Air, 8,000; United Air Lines, 7,000; United Air Lines (4½% Cum. Conv. Pfd.), 1,400.

Aircraft and accessories:

Bell Aircraft Corp., 22,770; Bendix Aviation Corp., 5,000; Boeing Airplane Co., 12,200; Consolidated Vultee Aircraft Corp., 17,100; Consolidated Vultee Aircraft Corp., $1.25 Cum. Con. Pfd., 10,000; Curtiss-Wright Corp. A., 14,400; Douglas Aircraft Co., 4,200; Grumman Aircraft Engineering Corp., 2,900; Lockheed Aircraft Corp., 17,400; Niles-Bement-Pond Co., 4,132; Thompson Products, 5,000; United Aircraft Corp., 17,000; United Aircraft Corp. 5% Cum. Con. Pfd., 2,100.

TWA's Second Quarter Earnings Up Despite 1943 Rate Reductions

Net earnings of $660,995, or 68c per share, are reported by Transcontinental & Western Air for the second quarter of 1944, compared with $419,341, or 43c per share, for the same period last year.

Jack Frye, TWA president, reported that the company's operating revenues amounted to $6,041,663, which is 21.6% more than the corresponding 1943 period and equivalent to $1.18 per revenue plane mile flown. Operating expenses totaled $4,656,373, equivalent to 91c per revenue plane mile flown, as compared to 99c for the second quarter. The increase in the company's second quarter net profit was despite reduced passenger and express rates which went into effect during the last half of 1943, Frye said.

As the result of the improved methods of equipment maintenance and scheduling, plus recent additions to its commercial fleet, TWA was able to operate 30% more revenue plane miles during the second quarter of 1944 than during the same period in 1943. Revenue ton miles per airplane during the second quarter of the current year averaged 381,657—over 38,000 or 11% more ton miles per plane than recorded during the corresponding 1943 period.

TWA now has 36 DC-3 planes in its fleet, two of which are in the process of conversion from military to commercial use. Recent equipment acquisitions have permitted the company to increase the number of transcontinental flights to 11.

The TWA Stratoliners which have been operated by TWA in overseas service for the U. S. Army Air Transport Command are to be returned to commercial service late this year.

New York City Airport Construction Bonds Won By Chase National Bank

Chase National Bank has submitted the best bid on $13,740,000 of New York City airport construction bonds, bearing interest at 1¾ per cent and maturing from Aug. 1, 1945 to 1974. The Chase bid was 101.5299 and the issue is being reoffered at prices to yield from 0.40 to 1.65 per cent for the 1945-64 maturities, and at 99½ to 101½ for the 1965-74 maturities.

The balance of the funds needed for this year's capital expenditures in connection with the development of the new municipal airport at Idlewild, Queens, is provided by the new issue.

Calling Dr. Jeep!...

ROHR
AIRCRAFT
CORPORATION

"Dr. Jeep" is one of the busiest fellows on the Rohr Production Line, wheeling up alongside of every motor nacelle and supercharger assembly for a new kind of final inspection. He makes the most thorough and accurate pre-flight check-up yet devised. ★ Rohr engineers developed several "Dr. Jeep" models, each for a specific task, to help Rohr Production Fighters maintain the efficiency of their skills, even while working at top speed. They are used to "okay" Liberator and Constellation motor nacelle assemblies and complicated supercharger installations. ★ These mechanical brains work rapidly, accomplishing with swiftness and certainty tasks formerly requiring thirty individual inspections with a variety of equipment. ★ "Dr. Jeep" is symbolic of developments in war plants throughout America, where engineers labor to give American bomber and fighter crews airplanes of maximum dependability and in great quantity. ★ Today we are "on the job to finish the job." After the war, this same American capacity to solve problems must be given a full opportunity to create the jobs that will win the peace we fight for.

Buy More Bonds . . .

Hold them till maturity.

ROHR AIRCRAFT CORPORATION, CHULA VISTA, CALIF. • HELPING TO WRITE THE STORY OF TOMORROW

Impractical Ideas Prove Practical After All

The American planes of today were "Buck Rogers dreams" a few years ago, Brig. Gen. Franklin O. Carroll, chief of the engineering division, Army Air Forces Materiel Command, declared recently. He explained that most of the engineers and scientists at Wright Field are dreamers "whose sole function is to look ahead and work on projects which cannot be realized for years." Gen. Carroll listed many standard, modern engineering practices which were once considered impossible of achievement—the internally-braced wing, which eliminated exterior struts and wires; the supercharger, which enables engines to operate at high altitudes; the high horsepower per pound of weight achieved since the last war; the jet propulsion engine which permits high-speed, high-altitude flight without propellers; the high-precision calculating bombsight; the modern demand system of oxygen supply; remote controlled guns; electrically operated turrets; retractable landing gear; radar and modern navigational instruments. "Only five years ago," he said, "no one would have believed it practical to install a 75 mm gun in a plane and fire it without wrecking the ship."

Wolfe Relieved from Service As Wright Field Arms Chief

Col. Franklin C. Wolfe, chief of the AAF Materiel Command's armament laboratory and recognized as a world authority on aerial armament, has been relieved from duty because of a physical disability. He had been in the service 20 years.

Wolfe

Col. Wolfe has had an important role in the development of gun turrets, bombsights and aerial weapons. In collaboration with Army Ordnance, he supervised the installation in AAF planes of the world's heaviest aerial weapon—the 75mm cannon. Working with his brother, Brig. Gen. K. B. Wolfe, until recently chief of the 20th Air Force, he developed the gun turrets and other armament features of the B-29 Superfortress.

Ex-Officers Aid Firms

A number of officers, who left the Army Air Forces Materiel and Service Commands to go on inactive status, are aiding prime contractors in the settlement of terminated contracts. These men, already well versed in contract handling, are hiring out to manufacturers to aid in making settlements with the Government and with sub-contractors.

Wings of Yesterday

Twenty-five Years Ago

The Post Office Department has contracted for three radio stations, the first of a chain of wireless communicating centers in various cities to be used primarily for the direction of mail-carrying planes handicapped by fog. (Aug. 15, 1919).

A flying boat delivered mail to a steamer at sea. An Aeromarine flying boat dropped a bag on the forward deck of the White Star liner "Adriatic" 1½ hours after the ship had left its pier in New York. (Aug. 14, 1919).

The International Aircraft Exposition opened in Amsterdam, Holland, first exposition in Europe since the Armistice. Among aircraft flown to the show was an 8-passenger Blackburn, which flew 440 miles from Leeds via London and Brussels. Planes are flying by night to London for the theatre, returning in the morning. (Aug. 1, 1919).

Lt. J. P. Corkville with Sgt. J. R. Cook in a Lepere flew 186 miles from Arcadia to Daytona Beach, Fla., in 75 minutes, flying 148 mph at 6,000 ft. altitude. (Aug. 1, 1919).

Maj. R. W. Schroeder piloted a Lepere 137 mph at 18,400 ft. altitude at McCook Field, Dayton, O. (Aug. 2, 1919).

Fifteen Years Ago

Sharp reductions in passenger fares charged by Pacific Air Transport have been announced. The present rate of $125 between Seattle and Los Angeles is cut to $75. Other cuts are: San Francisco to Seattle —$80 to $50; San Francisco-Oakland to Los Angeles—$45 to $25. (Aug. 15, 1929).

"Spokane Sun God", piloted by N. B. Mamer and Art Walker, completed a nonstop trip from Spokane to New York and return in 115 hours, 45 minutes, 10 seconds, being refueled at 11 points along the route. The plane was Buhl, Wright motored. (Aug. 15, 1929).

Incorporations

DICESARE AIRCRAFT CORP., 1 N. La Salle St., Chicago; to manufacture and deal in aircraft parts; 50,000 shares common npv, 50,000 preferred pv $1; P. Dicesare, M. Dicesare, and J. Pierre Mortes.

ROSE RESEARCH CORP., New York City; aircraft of all kinds; Todd & St. John, 258 Broadway, NYC; $10,000.

DAY AERONAUTICAL INSTRUMENTS, Inc., New Haven, Conn.; 50 shares, $100 par; Edwin W. Day, president, Harold B. Day, treasurer, both of East Haven, and Alex MacLennan, West Haven, secretary.

Over-the-Counter Securities

(Courtesy Merrill Lynch, Pierce, Fenner and Beane)

	July 29		August 4	
	Bid	Asked	Bid	Asked
AIRLINES				
All Amer. Aviation	6¼	6½	6⅛	6⅜
Am. Airlines Pfd.	117	119	118	121
Amer. Export Airlines	35	37	34	36
Braniff	17¼	17½	16¾	17
Chgo. & So. common	13½	14	13⅜	13⅝
Chgo. & So. Wts.	5¼	6¼	5¼	6¼
Continental Airlines	10	10¾	9½	10¼
Delta Air	24¼	.....	25	.....
Inland Airlines	2½	3	2¾	3½
Mid-Continent	7½	7¾	7½	7¾
National	13⅜	13¾	13¼	13⅜
Northeast Airlines	11¼	11½	11	11¼
MANUFACTURERS				
Aeronca	3	3⅜	3	3⅜
Air Assoc.	10⅛	10⅜	10	10¼
Aircraft & Diesel	1⅜	1⅞	1⅜	1⅞
Aircraft Accessories	4⅛	4¾	4½	4⅝
Airplane & Marine	2½	.....	2½	.....
Airplane Mfg. & Supply	65c	75c	65c	75c
Central Airports	75c	.....	75c	.....
Columbia Aircraft	30c	60c	30c	60c
Continental Aviation	3½	4	3½	4
Delaware Aircraft Pfd.	15c	.....	15c	.....
General Aviation Equipment	⅞	1⅛	⅞	1⅛
Globe Aircraft	.....	1.50	80c	1.30
Harlaw Aircraft	15c	.....	15c	.....
Harvill Corp. Pfd.	Called		.....	.....
Harvill Corp. common	1¼	1½	1⅜	1⅝
Interstate Aircraft & Eng.	9	9½	9	9½
Jacobs Aircraft	3⅝	4	3⅝	4
Kellett Aircraft	1¼	1½	1¼	1½
Kinner Motors	60c	70c	70c	80c
Liberty Aircraft	19½	20	18⅛	18⅝
Luscombe	1	1¼	1	1¼
Menasco Mfg.	⅞	1⅛	⅞	1⅛
Northrop Aircraft	4⅝	5	4¾	5⅛
Piper Aircraft common	1⅞	2⅛	2⅛	2⅜
Piper Aircraft Pfd.	20	21	21	23
Pitts. Aviation Ind.	6	.....	6	.....
Rohr Aircraft	6	6¼	6	6¼
Std. Aircraft Prod.	65c	85c	65c	85c
Taylorcraft common	2⅞	3⅛	2¾	3⅛
Taylorcraft Pfd.	6	6½	6	6½
Timm	40c	50c	40c	50c
Utd. Aircraft Prod. Pfd.	16	17	16	18

Advertisers In this Issue

Manufacturing Roundup

WACO AIRCRAFT CO. has created a new Terminations Division under the direction of Hugh C. Robbins, former Director of Waco Subcontract Division. Walter H. Miller, former Chief of Facilities Section, Subcontract Division, was promoted to fill the vacancy created by the transfer of Robbins.

CONSOLIDATED VULTEE's San Diego Division reports that during 1943 and 1944, 78,704 employes received more than 8,000,000 manhours of training of all types. In switching aircraft production over to a large-scale volume production basis, the need for workers in great numbers could only be met by recruiting men and women without previous experience or skill, Convair reveals.

FORD MOTOR COMPANY announces that all factory training of Army Air Forces mechanics to service Liberator bombers, with the exception of certain types of instruction on accessories, is now being handled by the Ford Airplane School at Willow Run.

REPUBLIC AVIATION CORP. has announced a new record-breaking employe incentive bonus of 40% for the 10th four-week period between June 10 and July 7, making employes' earnings for the period equivalent to more than five and one-half weeks' pay for four weeks' work. The aggregate of bonuses paid for 10 periods of four weeks each, since last November, now totals 215.5%.

KINNEY A LUMINUM COMPANY's new plant in Huntington Park, Cal., is near completion. It covers an area of five acres with 70,000 square feet of floor space. It is expected to have a monthly capacity of more than 200,000 lbs. of castings.

LOCKHEED AIRCRAFT CORP. announces that the Federal Communications Commission has granted it three construction permits—two for Lockheed Air Terminal—for installation of low power experimental radiotelephone stations in crash trucks, fire trucks, and ambulances.

DOUGLAS AIRCRAFT. CO. claims that its transports comprise 69 per cent of the multi-engined planes operated by the Air Transport Command and are flown in each of the ATC's eight foreign wings. Douglas land-based planes constitute more than half of all transport aircraft, including both land and sea-planes, operated by the Naval Air Transport Service, and almost 100 per cent of the tactical planes used by the Troop Carrier Command, the company says.

Production

WILLYS-OVERLAND MOTORS announces that production of landing gears for the Navy's Grumman fighter plane has been increased approximately 30% during the past six months. Much of the increased rate of production has been made possible by the substitution of arc-welding for gas-welding in joining tube sections of the gears, the company says.

CONSOLIDATED VULTEE AIRCRAFT CORP. reveals that its plants in San Diego and Fort Worth hold the No. 1 and No. 2 positions, respectively, in "production efficiency." Official WPB figures show that Convair's Fort Worth Division has achieved a reduction of 56 per cent in manhours required to build B-24 Liberators, advancing from ninth place to a position second only to the parent San Diego Division.

LAWRANCE AERONAUTICAL CORP. has been selected by the Navy to build two types of automatic pilots. The company has done considerable research and development work in the instrument field and has completed several other Government production contracts.

GENERAL ELECTRIC CO. has announced that jet-propulsion aircraft turbines for the War Department will go into production soon at its second largest wartime plant, built two years ago to produce equipment now no longer required in the war effort. To meet turbine output requirements, G-E is converting 600,000 square feet of floor space. The company also has turned over jet-propulsion drawings and specifications prepared by its engineers to another corporation formerly engaged in plane engine manufacture.

Classified

AERONAUTICAL ENGINEER—Must have certain amount of executive capability; draft exempt. Young man, willing to learn, preferred. Excellent opportunity for right party. Address Box 377, AMERICAN AVIATION, American Building, Washington 4, D. C.

PILOT INCAPACITATED FOR FLYING or desiring to retire from active flying with air line piloting experience, for position as apprentice arbitrator and negotiator. Natural aptitude plus considerable preliminary training required. Good opportunity for right man. Address Box 381, American Aviation, American Building, Washington 4, D. C.

PILOT desires position with Post War future. New airline or private concern. Former Airline Captain now employed as Chief Pilot with major company. Twelve years' airline and test pilot experience. Reply Box number 385. American Aviation, American Building, Washington, D. C.

WANTED

AERONAUTICAL ENGINEER

Aeronautical Engineer to make studies of product-applications for leading national manufacturer of aircraft accessories. Familiarity with small plane field desirable but not essential. Previous sales-engineering experience helpful. Applicant should have knowledge of hydraulic and electrical fields. Some travelling required. Permanent position. Reply in full enclosing photo and stating starting salary desired. Box 384.

REMOTE CONTROL

−65°F to +165°F

LAND–SEA–AIR

ADEL controls will save muscular effort in steering, braking, door-opening, load handling, etc., on buses, trucks and tractors.

ADEL remote controls assist in steering, engine maneuvering, clutching, braking and reversing—all with finger-tip manipulation of a small handle.

ADEL places power at your finger tips for operating cowl flaps, wing flaps, dive flaps, bomb bay doors, machine gun turrets, emergency exits, landing gear, etc.

ADEL systems now serve the railroads in diesel cabs, operate reversing, braking, signals and other controls. Impervious to all types of weather and temperature changes.

ADEL controls lift and tailgate scrapers, operate hydraulic equipment, save strain and speed the job for busy contractors.

ADEL offers you three different types:

* *ISOhaulic (manual)*

Manual remote control. Self-contained. Operates up to 150 ft. Precise settings over temperature range of −65°F. to +160°F. with master or slave at either extreme or both. Small size and light weight. Tandem control station arrangements possible.

* *ISOhaulic (power)*

Powered remote control. Adaptable to any size hydraulic prime mover. Accurate, easy control of speed and position up to 200 ft. Flows up to 20 GPM. For airplane flaps, ship and vehicle steering, clutches, road building equipment, etc.

* *HYdraulic*

Powered remote control. Employs electronic sensing and control elements coupled with hydraulic power. Operates over great distances. Extremely versatile units adaptable to the most complex installation requirements.

**Trade Mark Registered*

With ADEL remote control systems, your finger tip commands will move and accurately position loads from ounces to tons with rugged, versatile hydraulic power. Over 500,000 ADEL hydraulic units comprising 300 types and sizes now serving aircraft, armament, transportation and marine industries. Known everywhere for Design Simplicity, Standardization and DEPENDABILITY. Recent brochure available. Send us details of your problems. Let our engineers show you what ADEL can do for you.

ADEL PRECISION PRODUCTS CORP., BURBANK, CALIF., HUNTINGTON 17, W. VA.

After VICTORY... *the* ADEL-AGE

ADEL

Buy U. S. War Bonds and Hold Them